

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA

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COMCAST CABLE COMMUNICATIONS, : CIVIL ACTION NO. 12-0859
LLC, et al., :
Plaintiffs :
: :
v. : Philadelphia, Pennsylvania
: February 2, 2017
SPRINT COMMUNICATIONS : 1:29 o'clock p.m.
COMPANY L.P., et al., :
Defendants :
* * * * *

AFTERNOON SESSION - DAY FOUR
BEFORE THE HONORABLE JAN E. DUBOIS
SENIOR UNITED STATES DISTRICT COURT JUDGE

- - -

APPEARANCES:

For the Plaintiffs: DANIEL J. GOETTLE, ESQUIRE
DALE M. HEIST, ESQUIRE
Baker & Hostetler, LLP
Cira Centre, 12th Floor
2929 Arch Street
Philadelphia, PA 19104-2891

WILLIAM T. HANGLEY, ESQUIRE
REBECCA SANTORO MELLEY, ESQUIRE
Hangley Aronchick Segal & Pudlin
One Logan Square, 27th Floor
Philadelphia, PA 19103

GEORGE MEDLOCK, ESQUIRE
Comcast Cable Communications
Chief Patent Counsel

Laws Transcription Service
48 W. LaCrosse Avenue
Lansdowne, PA 19050
(610) 623-4178

APPEARANCES: (Continued)

For the Defendants: DAVID E. FINKELSON, ESQUIRE
BRIAN C. RIOPELLE, ESQUIRE
JUSTIN R. LOWERY, ESQUIRE
McGuire Woods, LLP
Gateway Plaza
800 East Canal Street
Richmond, VA 23219

COLLEEN H. SIMPSON, ESQUIRE
Harkins Cunningham, LLP
4000 Two Commerce Square
2001 Market Street
Philadelphia, PA 19103

- - -

Audio Operator: Michael Cosgrove

Transcribed by: Geraldine C. Laws, CET
Tracey Williams, CET
Paula Curran, CET

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9 Other ways of getting here: trains, a little
10 shorter; driving, a little shorter; or a hotel. Again, he
11 prefers the bus, but is willing to take other means of
12 transportation or staying overnight, if we decide that.

13 And finally he said, if we decide to keep the
14 regular departure time, 4:45, he prefers an early departure
15 only one day a week, Friday. It's an awesome decision. I
16 don't know who to go to.

17 MR. FINKELSON: I mean, we're -- I mean, I think
18 what makes the most sense is to accommodate him so that he
19 can be here as late as possible as often as possible. And
20 the parties have already talked, if it's a matter of the
21 parties sharing the cost of a car, I don't know exactly what
22 that costs, but I imagine --

23 MR. HANGLEY: We're pretty much wide open.

24 MR. FINKELSON: -- yeah, we'll do it. So --

25 THE COURT: I would not like to do that --

1 MR. FINKELSON: Okay.

2 THE COURT: -- because I think other jurors have
3 similar issues -- let me get the list --

4 MR. HANGLEY: But, your Honor, as David said to me
5 last night, the cost of a day at trial is enormous enough
6 that if we can avoid picking up an extra day, we're really
7 happy about it. So nobody ever wants to say money is no
8 object, but we -- I think we're both prepared to --

9 MR. FINKELSON: I don't know if I said money is no
10 object.

11 (Laughter.)

12 MR. HANGLEY: I didn't either, I didn't either.

13 THE COURT: So let me hear the vote.

14 MR. FINKELSON: We will do whatever makes the most
15 sense for him and for the Court to spend -- you know, so that
16 we have the longest court days possible.

17 THE COURT: Well, he's very flexible. He's waiting
18 for us to give him the word.

19 MR. FINKELSON: Ms. Hull had noted yesterday he
20 didn't really want to stay in a hotel and I know that's the
21 option that's generally provided. And we don't want to do
22 anything that he doesn't want to do, so --

23 THE COURT: Well, I think we should tell him at
24 least for one day to try the one of the alternate means of
25 transportation to see how it works and we'll ask him if he

1 can do that today, because tomorrow he has requested that we
2 recess early. So we'll recess tomorrow at about 3:00 -- 4:00
3 rather, I would say 4:20ish, but today see if he can go to
4 the regular time.

5 MR. FINKELSON: That works, your Honor.

6 THE COURT: And see how it works. I don't like to
7 single him out, I don't like to pull a juror out, it -- I
8 think I'll mention it in open court. We'll do it that way,
9 perhaps not identify him, although he probably has shared
10 this with others.

11 MR. HANGLEY: And we haven't heard anything from
12 other jurors?

13 THE COURT: No -- well, yes, one other juror using
14 an outdated train schedule.

15 MR. HANGLEY: Oh, yes, I forgot about that.

16 THE COURT: These issues are not reported in any
17 books, but --

18 (Laughter.)

19 THE COURT: -- and yet they're very --

20 MR. HANGLEY: Very important.

21 THE COURT: -- very significant when it comes to
22 results and my goal is to have the jury accommodated to the
23 extent we can. I want to make it easy for them to focus on
24 the trial.

25 (Pause.)

1 THE COURT: We're missing a juror. And I've re-read
2 the note that Milahn gave me with respect to Juror No. 1, it
3 doesn't say anything about train on here, although I know
4 there are trains that run to Reading, and I'm not so sure we
5 can change his method of transportation in midday. In other
6 words, if he's driven to the bus terminal, he can't drive
7 from Reading to Philadelphia. So I'll have to talk to him
8 during the mid-afternoon recess.

9 I didn't realize we were missing a juror and it's
10 Juror No. 5.

11 (Pause.)

12 THE COURT: All right. I think what we should do is
13 -- I heard --

14 THE DEPUTY CLERK: That was me, I'm sorry.

15 THE COURT: -- we'll be in recess. No need to keep
16 everybody in here. Call me as soon as it's resolved.

17 THE DEPUTY CLERK: All rise.

18 THE COURT: We're in recess.

19 (Court in recess; 1:43 to 1:48 o'clock p.m.)

20 (Jury in at 1:49 o'clock p.m.)

21 THE COURT: Be seated, everyone. Good afternoon.

22 I want all of you to make an effort to be back in
23 court on time. You've done very well in the mornings, you
24 had a slippage today at lunch, but when we say an hour, it's
25 almost an hour and a half and that's not appropriate. I will

Akl - Direct

7

1 say no more for now.

2 All right, we'll resume the direct examination of
3 Dr. Akl.

4 ROBERT AKL, Plaintiffs' Witness, Previously Sworn,
5 Resumed.

6 CONTINUED DIRECT EXAMINATION

7 BY MR. GOETTLE:

8 Q Dr. Akl, are you now going to talk about Sprint's
9 cellular and messaging networks?

10 A Yes.

11 Q And are those networks different, the same, overlapping?
12 What are they, Sprint's cellular network versus Sprint's
13 messaging network?

14 A So what I'm going to be doing next is describing Sprint's
15 cellular network and Sprint has a messaging network, and I
16 will show documentation. I have looked at deposition
17 testimony of Sprint engineers, I have looked at CDMA
18 standards, there were thousands of pages of documentation
19 that I looked at to prepare and come up with the conclusions
20 that I have in terms of Sprint's cellular network and
21 Sprint's messaging network.

22 Q And are those different networks or --

23 A Yes, they are two different networks that work together,
24 but they're different networks.

25 Q Okay. So how did you go about determining what Sprint's

Akl - Direct

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1 -- what composes Sprint's cellular network?

2 A Yes. So we have a claim construction from the Court of
3 what a cellular network means and I adopt, and I use the
4 Court's definition for a cellular network and I compare that
5 definition with the documents that I received from Sprint in
6 terms of what their network does.

7 Q Okay. So you have a document up on -- or at least the
8 first page I should say of a document up on the screen, PX-
9 120; is this the only document that you looked at in
10 determining what Sprint's cellular network is?

11 A No. I looked at a lot of documents, I've looked at the
12 CDMA standards, I've looked at deposition transcripts of
13 Sprint and third party testimony, but this is one document,
14 it has some good figures. I need something to work with the
15 jury and this is a good example.

16 Q Okay. So what are we seeing on slide 56 of Plaintiffs'
17 Demonstrative 2?

18 A So the document is PX-120 and in this document under
19 Section 3 there is a figure that says "Logical Network
20 Design," and this is a Sprint document. The only thing I
21 have done is I have circled in green the phone. So going
22 back to -- what I have to do is I have to look at what the
23 Court provided as a definition and I have to look at what
24 Sprint has and match them up.

25 So the cellular network definition includes three

Akl - Direct

9

1 things and the first thing, you need to have a cell phone.
2 Now, it's not disputed that the Sprint network has cell
3 phones, but I still have to make the case, it's Comcast's
4 burden. So Sprint, surprisingly, does have cell phones and
5 the cell phones are what's circled in green.

6 Q And you're being facetious when --

7 A I know, I'm just -- we have to wake the jury up now. So,
8 yes, Sprint had cell phones, that's the point.

9 Q Okay. Next?

10 A Next. So the second item in the definition is a base
11 station system and the base station system that communicates
12 with the wireless terminals, those are the towers, the
13 antennas at the towers and the computers at the bottom of the
14 towers, the base station controllers. So looking at the
15 Sprint document, an example of that is the BTS and the BSC,
16 those are the base station transceivers, the antenna towers
17 and the base station controller. So what I've circled in
18 green matches the Court's construction for a base station
19 system that communicates with the wireless terminals.

20 Q And did we see those now more acronyms, BTS and BSC, did
21 we see those acronyms when we were walking through the
22 patent?

23 A Yes.

24 Q And combined those make the base station system?

25 A That is correct.

Akl - Direct

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1 Q Okay. So now turning to "Core Network Elements."

2 A Turning to "Core Network Elements," the Court has
3 provided examples of what core network elements are. And
4 again, to determine if an element is a core network element,
5 we look at its functionality; is it essential, is it core?
6 And those components may include subscriber databases such as
7 the home location register. Sprint's network does have a
8 subscriber database that is a home location register and its
9 acronym is HLR, which is what I circled in green.

10 Q So what is contained in the home location register in
11 Sprint's network?

12 A So the home location register contains subscriber
13 information about the phone. One of the things that's very
14 important that's located there is the location of the phone.
15 So for a phone to be able to receive any communication the
16 HLR or the home location register database is looked there to
17 see if the phone is active and what was the last location of
18 the phone.

19 Q And, Dr. Akl, in your opinion is the home location
20 register, which is a subscriber database, is that a core
21 network element in Sprint's network?

22 A Yes. So going back to the definition of what makes
23 something core, it has to be able to be essential in the
24 cellular network, and essential or core means it has to be
25 able to do the switching, to be able to connect the phones to

Akl - Direct

11

1 the other phones and to the outside network, and to be able
2 to do the lookup. To do the switching, you need to do the
3 lookup. So the lookup in the subscriber database is
4 essential for the functionality, so the HLR or the home
5 location register subscriber database is a core network
6 element.

7 Q Does Sprint's network include other subscriber database
8 that qualify as a core network element?

9 A Yes, there is other databases. Note in this diagram at
10 the bottom it says, "Update drawing to include SPS." Those
11 words I did not add, those words were actually in the
12 document. I have just put a green circle around those words,
13 so I just to be clear. The SPS is -- the words SPS and I put
14 in the database that says LDP (ph). And we saw in the
15 opening that Sprint's counsel did, he did say Sprint's
16 network has an HLR, so there's not a dispute, and the SPS, he
17 also gave the examples of other subscriber databases like
18 SPS. So there isn't a dispute that the SPS -- at least I
19 don't believe that there is -- that the SPS is another
20 database, it's a subscriber database, it is used in order to
21 do the switching. So when you want to connect to the
22 Internet, you look up information to see in that subscriber
23 database and that is a core network element.

24 Q What does the SPS have to do with connecting to the
25 Internet?

Akl - Direct

12

1 A So it includes information on the subscribers, for
2 example it includes lists that are not in the home location
3 registers. So additional attributes about phones that are
4 essential like which phones can -- which phone numbers can a
5 specific device connect to or which phone numbers are
6 forbidden from connecting to a specific device. So there are
7 what's called like white lists and black lists that are
8 maintained in the SPS. Other information like for
9 authentication or billing can also be -- are included in the
10 SPS.

11 So the SPS is a subscriber database that is also
12 used and it is essential, because the lookup into the SPS is
13 essential; it also tells you if the phone can receive
14 information.

15 Q Okay. Does Sprint's network include any other core
16 network elements?

17 A Yes.

18 Q Excuse me, I missed a slide of yours on -- what are we
19 looking at on slide 60 before we turn to other elements?

20 A So when I was forming my analysis, not only did I look at
21 documents from Sprint, but I've also looked at deposition
22 testimony and a couple names are going to come up, Mr.
23 Hoelzle and Mr. Moss. Mr. Hoelzle, I believe is in charge of
24 Sprint's messaging network and so there's a lot of, during
25 his deposition, he confirmed a lot of the opinions that I

Akl - Direct

13

1 formed when I was doing my analysis. One of the questions
2 that he was asked was does the SBS store information related
3 to subscribes instance network and he answered, yes, it does.
4 So, this is a Sprint employee, under oath, in a deposition,
5 confirming my analysis.

6 Q Okay, does Sprint's network have other core network
7 elements?

8 A Yes, we talked about the mobile switching center and
9 that's what -- that's the switching for the calling. That's
10 the MSC and Sprint's cellular network has MSCs or mobile
11 switching centers and this is what I've highlighted in green.

12 Q And what is it about Sprint's mobile, well first of all,
13 did we see MSCs, mobile switching centers in the patent?

14 A Yes.

15 Q And what is about Sprint's mobile switching center, MSC,
16 that qualifies it as a core or essential network element?

17 A Those are the elements that do the actual switching, so
18 when you want to connect the phone to another phone, in order
19 to connect those calls and when you want to connect the phone
20 to landlines or you want to connect a cellphone to the
21 outside networks, that switching is done in the MSCs, what
22 allows you to do that routing and that switching -- that
23 connection.

24 So, in our analogy of the '50s with a switchboard
25 and the connections, the connections is what the MSC does.

Akl - Direct

14

1 And the look-up, when the operator is looking in her notebook
2 to see what to connect, that's what the subscriber databases
3 do.

4 Q Does Sprint's cellular network include any other core
5 network elements?

6 A Yes.

7 Q What are we looking at on Slide 62 of Plaintiffs
8 Demonstrative-2?

9 A So, more acronyms, the FA, which stands for foreign agent
10 and HA, is home agent. Those are packet switching nodes, so
11 you may have heard in the opening, Sprint's counsel referred
12 to the PDSN as the packet switching nodes in Sprint's CDMA
13 network. Those are what these components are. So, they are
14 packet switching nodes. They allow connection of the phones,
15 for example, to the internet. And because of the core
16 essential functionality of being able to do the switching so
17 that the phones can connect to the internet, they are a core
18 network element.

19 Q So, does that mean that FA and HA equals PDSM?

20 A Yes. I mean, it's different components have different
21 labels sometimes in different documents, but it's the same
22 functionality.

23 Q Okay, so have you now described for the jury what
24 Sprint's core network elements are in the cellular network?

25 A Yes, so this is, so again, this is the Sprint document.

Akl - Direct

15

1 What I've done now is I have just put a box in green around
2 Sprint's cellular network. On the left are the phones, the
3 base station systems and then we have the inside circle,
4 which is the core network elements. On the right, I believe
5 the internet was already there, that's an external network.
6 And the PSDN is what I've added, just to this figure to show
7 how the cellular network can connect to outside networks, so
8 I'm giving an example of the regular phone network. This is
9 here. But other than that, the annotation and the other
10 elements are in the document.

11 Q Okay, so I'm on slide, you're on Slide, I should say,
12 your Slide 63. I'm going to flip back to Slide 62 and now
13 your circle is empty, that's because you added on Slide 63,
14 you added PSDN?

15 A Yes, this is another example. The internet was already
16 there. This is the internet as an example of an outside
17 external network. That would be cellular network, Sprint
18 cellular network connects to. I added just the phone network
19 as another example. We've discussed how the cellular network
20 has to be able to complete calls to other cellphones and to
21 landlines. That's for illustrative purposes.

22 Q Okay, there is one box that looks like a computer there,
23 that's labeled AN/AAA/AAA, do you see that?

24 A Yes. It's a lot of letters and this is the AAA is
25 authentication, authorization, and accounting. And it is a

Akl - Direct

16

1 core network element because it also looks at subscriber
2 information to determine if the phone or the subscriber is up
3 to date, authorized in order to make calls. So, it is part
4 of the core network functionality of look-up that can be done
5 when a phone is connecting to the internet.

6 Q Okay, are you now going to talk about Sprint's messaging
7 network that you talked about earlier?

8 A Yes.

9 Q What are we looking at, what document are we looking at
10 on Slide 64?

11 A So, this is a Sprint document, this is PX-99 and it's the
12 second page of that document. The colors and what you see in
13 this document is exactly how it was provided to me by Sprint.
14 So, the different colors, this is all done by Sprint and this
15 document is Sprint's messaging high-level architectural
16 diagram.

17 Q Okay. So, I guess, I just hit the clicker, I just went
18 back. Now, I'm going to hit it again, what just happened?

19 A So, I am just, the colors that were in the document, I'm
20 just highlighting because I want to walk with the jury and
21 focus on the components of Sprint's messaging network that
22 are important for the discussion that we're having today.

23 Q Okay and in terms of this Sprint messaging high-level
24 architecture diagram, are there any elements of Sprint's
25 cellular network shown here?

Akl - Direct

17

1 A Yes, so looking at this document, you see the HLR, which
2 is the home location register, again, that's the subscriber
3 database that includes the phone location, that is a core
4 network element in Sprint's cellular network. And we see the
5 SPS in the middle, that is another subscriber database that
6 is essential. So, Sprint has a cellular network, we've
7 discussed that. It has elements that are core in Sprint's
8 cellular network. Sprint also has a messaging network and
9 Sprint's messaging network communicates with Sprint's
10 cellular network. And we're going to -- and that
11 communication, like the look-up that needs to happen, the
12 essential functionality is happening in Sprint's cellular
13 network.

14 Q Okay, are there other elements of Sprint's cellular
15 network that the components of the messaging networks connect
16 to when messages are being sent or received?

17 A Yes, so this document is showing the subscriber databases
18 and then those messages are then going to go over, after
19 look-up, they're going to go over, for example, the mobile
20 switching centers. The switching is going to happen in the
21 MSC to be able to deliver those messages. Those aren't shown
22 in this figure. But we showed them in the previous figure.

23 Q Okay, so if we removed the HLR and the SPS from this
24 figure, would that be showing a high level diagram of just
25 Sprint's messaging network?

Akl - Direct

18

1 A Yes.

2 Q And is that what you're showing on Slide 65?

3 A Yes.

4 Q Okay, so are you going to describe Sprint's messaging
5 network now?

6 A Yes. So, looking at what we are seeing here, this is
7 Sprint's high level architecture diagram for their messaging
8 network. What you see in the middle and I'll actually have
9 the slide just on that. Those aren't really very important
10 for the discussion that we have today, but I'm going to go
11 over them at a high level. Content providers, these are
12 computers that provide prepaid content, for example. Premium
13 content, like if you subscribe to your horoscope or your
14 subscribe to little messages about news. Sprint was offering
15 a supplemental service, where you get information delivered
16 to your phone. Those were handled by the messaging network
17 and by the content providers.

18 What we see in the middle, IT and OCS platforms,
19 these are for billing and at the bottom, we see like e-mail
20 and internet. Again, these are part of the content that was
21 being provided to the subscribers as part of Sprint's
22 messaging network. What's in this red right now, really
23 isn't important to the issues that the jury has to resolve.
24 So, what's very important is what's on the left and what's on
25 the right and that's the MMSC, which is the messaging server,

Akl - Direct

19

1 so the messaging server for the month you need your messages,
2 recall we have a claim construction that the Court provided,
3 that the messaging server needs to be able to have the two
4 functionalities of sort and forward and sending an inquiry.
5 That's Sprint has MMSCs that handles multi-media messages and
6 Sprint has an SMSC, that's the one on the right, for SMS
7 messaging.

8 The other things, in the top, you have inner-carrier
9 SMS and inter-carrier MMS. Those are so you can send
10 messages to or receive messages from other carriers. So,
11 somebody on AT&T's network communicating with a subscriber on
12 Sprint's network, those go through these components. Those
13 components are not really at issue in this matter.

14 Q Okay, so in MMSC, can you explain again what an MMSC is?

15 A Yes, so it's the messaging server for the multi-media
16 messages. So, it's the multi-media message center is --
17 multi-media messages are stored and forwarded in an MMSC.

18 Q Okay and how about the SMSC?

19 A So, the SMSC is for the text messages. So, the short
20 text messages, the SMS, which is the short message service
21 center, which is the messaging service for texting is handled
22 by the SMSC.

23 Q Slide 67, did you go over this?

24 A Yes, so I've already gone over, I had a slide with the
25 red around it, I can do it here on the fly. Again, what's

Akl - Direct

20

1 important in Sprint's messaging network is that Sprint has a
2 messaging network, that's number one, a very important point.
3 And that Sprint has messaging servers in their messaging
4 network, that's point number two.

5 Q Okay and so we've been looking at PX-99 in the last few
6 slides?

7 A Yes.

8 Q Is this the only document you looked at to determine if
9 Sprint has a messaging network and what it contains?

10 A No, there are other documents on the next slide, this is
11 PX-174. It is a document that's titled, Messaging Network
12 Components New Terminology and it is a document that
13 describes also Sprint's messaging network.

14 Q Okay. And what are you showing on Slide 69 of
15 Plaintiff's Demonstrative-2?

16 A So, after going through the documents that Sprint
17 provided and the testimony, my conclusion and the results of
18 my analysis is that Sprint, as a telecommunications network,
19 they have a cellular network, which is what I'm showing at
20 the bottom. They have the components that the Court said a
21 cellular network based on the 1999 definition of the patent,
22 that needs to be available. The phones, the base station
23 systems, the core network elements. In addition, Sprint has
24 a messaging network. The messaging network has components in
25 it. Whether some of the components are core to the messaging

Akl - Direct

21

1 network is not something we need to worry about.

2 Again, the definition of core network elements, is
3 only in the cellular network context. So, Sprint has a
4 messaging network and in Sprint's messaging network, you have
5 the messaging servers, ones that handle the multi-media
6 messages and ones that handle the text messages. And those
7 messaging servers do the two functionalities that the Court
8 requires a messaging server to do. And those two
9 functionalities are the storing and forwarding and sending an
10 inquiry. And so, Sprint's messaging network communicates
11 with Sprint's cellular network for the inquiry and well,
12 we'll talk about that a little bit more later.

13 Q Okay, so what is the relationship -- we talked earlier
14 about the CDMA-2000 standard. What is the relationship
15 between that standard and what we're seeing on your Slide 69?

16 A So, Sprint's network is a CDMA-2000 network. So, in
17 addition to looking at Sprint's documents and testimony from
18 Sprint engineers, I've also looked at CDMA standards, because
19 that's the technology that Sprint implements and uses.

20 Q Okay and did the CDMA standards, do they describe in
21 terms of what you have in your box labeled core network
22 elements? I'm sorry, I did not say it correctly. Do the
23 CDMA standards describe those elements?

24 A The CDMA standard does not describe what is core. So,
25 when we look at the standard, the standard -- we have the

Akl - Direct

22

1 slides on the standard or we can put a document up. The
2 standard describes functionality of components. So, very
3 similar to what we're doing in terms of looking at what
4 functionality elements do. That's how the standard is
5 written and when you look at the standard, it will tell you -
6 - it will give you logical diagrams of functionality. Of
7 what the different entities need to do as a matter of
8 function. And I know, in the opening, I heard Sprint's
9 counsel saying, you know, the standard will -- the evidence
10 will show you that the standards say that the messaging
11 server needs to be inside. I've looked at those standards
12 and actually, they do not.

13 Q But you alluded to the opening, do you recall Sprint's
14 lawyer mentioning or stating that the CDMA-2000 standard
15 recommends, I think he used the word, recommends, that the
16 messaging server be internal to the cellular network?

17 A Yes, I disagree with what he said.

18 MR. GOETTLE: Your Honor, may I approach the
19 witness?

20 THE COURT: Yes.

21 Q Dr. Akl, do you have before you a document marked DX-3?

22 A Yes.

23 Q What is it?

24 A This is one document from the 3GPP-2 standard and the
25 size of the document is -- this is going to come and meet

Akl - Direct

23

1 with those documents, there are thousands of pages in CDMA
2 and there are multiple document like this. This one is
3 titled, Cellular Radio Telecommunication Inner-system
4 Operations. And this is Version 1.0.

5 Q Doctor, I forget to ask you earlier, when we were talking
6 about Sprint's attorney's opening and he was referring to the
7 American standard, do you recall that?

8 A Yes.

9 Q Is that this document or related to this document?

10 A Yes.

11 Q Okay and there is also reference to an acronym that is
12 not included on the jury's acronym sheet, called ANSI? Do
13 you recall that from yesterday?

14 A Yes.

15 Q Do you know what ANSI stands for?

16 A American National Standards Institute.

17 Q And is the CDMA-2000 standard promulgated by ANSI?

18 A No, there is actually, the group that looks at or one of
19 the standard-setting bodies is actually 3GPP-2. There is
20 3GPP, which stands for Third Generation Partnership Project.
21 And there was a group of different companies that came
22 together after the second generation to come up with the
23 third generation cellular system and if you recall, with the
24 second generation, we had GSM, which was European and we had
25 CDMA, which was Qualcomm, basically. And they didn't decide

Akl - Direct

24

1 on a single standard, so 3GPP continued to work on GSM and
2 the evolution of the third generation version of GSM, 3GPP-2,
3 just the number two after it, worked on CDMA and the third
4 generation evolution of CDMA, which is called CDMA-2000. And
5 the ANSI or ANSI-41 are also American standard setting bodies
6 and the documents sometimes, which have two names. But the
7 official CDMA-2000 is really under 3GPP-2 and that's the
8 website you would go to to pull up the standards.

9 Q So, back I had asked you if the CDMA-2000 standard
10 recommends placing messaging centers inside the site on
11 network and what was your answer for that question?

12 A The answer is no and we're going to look inside this
13 document. There is a figure and there's some description, if
14 we can put it up for the jury.

15 Q Okay. Do you recall where that figure is?

16 A I believe Figure 2.1.

17 Q Okay, can you flip to Figure 2.1?

18 A I don't remember which page it's --

19 Q Yes, I'm trying to figure it out, that's why -- I'm sorry
20 for the delay.

21 THE COURT: Will you identify the exhibit?

22 MR. GOETTLE: I will, your Honor. Your Honor, the
23 witness is flipping through DX-3.

24 THE WITNESS: So --

25 MR. GOETTLE: You got that?

Akl - Direct

25

1 THE WITNESS: So, 1-24.

2 Q Are you there, sir?

3 A Yes.

4 Q Can we blow up the five network reference model at the
5 top down just to the bottom of P-15, so we can see the legal
6 figure, too. Okay, can you describe what we're looking at
7 from DX-3.

8 A So, this is a figure from the document in front of me,
9 this is the CDMA-2000 3GPP-2 standard. And Figure 2 is
10 network reference model and looking at the boxes, a lot of
11 these acronyms we've gone over and I'll provide a very quick
12 refresher. So, the MS on the left, that's the mobile
13 subscriber, that's the cellphone. BS is the base station.
14 So, these are the antenna towers. MSC is the mobile switching
15 center. That's what does the routing, the switching. HLR is
16 a subscriber database, that's the home location register.
17 For example, PSDN, we talked about, that's the public switch
18 telephone network, that's the landlines network.

19 Now, looking at MC, is messaging center, so it
20 relates to the messaging. This is where the one
21 functionality, the storing forward, is actually in the MC.
22 And if we look at the first paragraph, the description up
23 here, it says Figure 2 presents the functional entities and
24 this is important because again, in standards, things are
25 described in terms of function. Functional entities of the

Akl - Direct

26

1 associated interface reference points, that may logically
2 comprise a cellular network. And it's interesting, I don't
3 think it's an accident, but it's the Court's construction,
4 again uses the word, may, in the core network elements. So,
5 the cellular standard, again, is consistent with the Court's
6 construction that you have to look at the functional entities
7 and they may logically comprise. So, a standard never tells
8 you something has to be a specific way in terms of, here, it
9 says it may logically comprise.

10 A lot of times, implementation isn't specifically
11 specified. It gives you recommendations and people use
12 standards so that they can build products that work together.
13 So, that's really the point of standards. It may tell you
14 how you need to do something so that someone else, who
15 creates a product, works with the product that you're making.
16 When we look at Figure 2, all these components, they're not
17 made by a single person or a single vendor or a single
18 company. You have multiple companies that make the phones,
19 different companies that make the base stations, different
20 companies that make the databases and so, you need the
21 standards so that you buy a phone from a vendor which work
22 with this base station, with this database and that's how
23 networks are built.

24 Q So, is Figure-2 laying out a recommendation for the
25 placement of the MC message center?

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27

1 A Yes.

2 Q I'm sorry --

3 A I'm sorry, what was the question?

4 Q I said is DX-3 and what you're looking at here, is it
5 making a recommendation for the placement of a message
6 center?

7 A No, it just says that the Figure-2 represents functional
8 entities that may comprise. So, there is no recommendation.
9 You know, we're hearing the word, external, internal, that
10 does not appear in the -- in the standard. There is no
11 recommendation on location and there wouldn't be. Because
12 again, physical location is not something an engineer would
13 look at. It's functional -- what the function is, is what
14 one skilled in the art, what an engineer would be looking at,
15 not where something physically is.

16 Q And later on in that paragraph, there's a sentence,
17 actually the last sentence of that paragraph. Can you read
18 that sentence and explain that to the jury?

19 A Yes. In cases where functional entities are combined in
20 the same physical equipment, the interface reference points
21 become internal and need not adhere to interface standards.
22 And that's the point that I was making is, things are
23 described from a functional point of view. And you have
24 boxes that describe functionality. And just like we saw, for
25 example in the Erickson Patent, where you can have an

Akl - Direct

28

1 implementation where you can take different functionalities
2 and put them on one computer. That's what the standard is
3 saying. So, I can take a messaging server and take the
4 functionality of a messaging server back in 1995 and put it
5 in a mobile switching center. It was okay back then.
6 Messages were small, the switching can handle those text
7 messages. In that case, the messaging server has core
8 functionalities. Or I can have different computers
9 implementing the different functionality.

10 So and when they are in one computer, then you don't
11 -- they can immediately talk to each other, in a sense, so
12 you don't have to look at interface standards. This is what
13 it's saying here. Interface standard is when they are
14 different computers, you need to have someone who is a
15 vendor, who is building the messaging server, that needs to
16 now query the cellular network. You're going to have a
17 different vendor that is providing the home location register
18 or that subscriber databases. So, you need to have a
19 standard that tells you how they talk to each other and
20 that's how, that's what standards do, is they provide the
21 rules, so different companies can build different components
22 and a network, a very complicated network, can work.

23 Q Dr. Akl, the DX-3 is a standard for CDMA cellular
24 networks?

25 A Yes.

Akl - Direct

29

1 Q Then wouldn't a standard on CDMA cellular networks tell
2 you what has to be part of the cellular network?

3 A No, I mean, in this case and that's not necessary. So,
4 if it tells you what functionality you can have or you may
5 have and different parts of the document is going to describe
6 those functionalities, but it doesn't force you, in an
7 implementation. It doesn't force you to do it a specific way
8 and as far as the opening, where I heard that there is a
9 recommendation to have it inside, that is not true. The
10 ANSI-41 is what we see here, TIA-BIA-41, so again, different
11 documents, different standard-setting bodies may refer to
12 different documents. That's where the number 41 comes up.
13 But there is no recommendation to have it inside.

14 MR. GOETTLE: Your Honor, would it be okay, if I
15 retrieved DX-3, just because it's a large stack in front of
16 Dr. Akl.

17 THE COURT: Yes.

18 (Pause.)

19 Q Okay, Dr. Akl, we are now going to turn to Topic 5 out of
20 5 Topics, Sprints?

21 A Yes.

22 Q Okay.

23 A So, to orient the jury, we've talked about the background
24 of cellular networks and messaging in '99. We've talked
25 about the patent. We've talked about what Sprint has in

Akl - Direct

30

1 terms of they have a cellular network and they have a
2 messaging network. So, the last part is now bringing it
3 together and we have to -- it's Comcast's burden to go
4 through the patent, limitation by limitation and to match up
5 what the patent says and what the invention is with Sprint's
6 network. And that's what we're going to be doing next.

7 Q Okay, so are we going to start with Claim 1?

8 A Yes.

9 Q Okay. So, what are you showing on Slide 72 of your
10 presentation?

11 A So this is similar to what we did before. Previously I
12 walked through the claim but I was explaining the claim and I
13 was using my drawings. Now we're going to walk through the
14 claim but we're going to match it to Sprint's network. And
15 that's the infringement step or the infringement analysis.

16 So we look at the preamble. The Court has provided
17 a definition for cellular network, and again to meet the
18 preamble I need to show that Sprint has the cellular network
19 which I believe I have, and this is now a figure from
20 Sprint's document from multiple documents that we've looked
21 at that Sprint does in fact have a cellular network.

22 We go back to the definition. The definition has
23 three things. And I need to show that Sprint meets that
24 definition, so Sprint does have a wireless terminal, Sprint
25 does have base station systems that communicate with the

Akl - Direct

31

1 wireless terminal, and Sprint does have core network elements
2 which is what I've discussed previously.

3 Q Okay. And so the preamble the claim says that there has
4 to be a cellular network and then a messaging server external
5 to the cellular network. Does Sprint's cellular network
6 include any messaging server?

7 A No.

8 Q Okay. And are you going to explain that to the jury?

9 A Yes. So I've explained that Sprint has a cellular
10 network. And Sprint has a messaging network. Sprint's
11 messaging servers that do this functionality of storing and
12 forwarding and sending inquiry are in Sprint's messaging
13 network. They are not core network elements in its cellular
14 network. So they meet the definition or they meet what the
15 claim requires that a messaging server be external to a
16 cellular network.

17 Again, this is not an issue about location, where is
18 it physically located. It's an issue of functionality. Is
19 it external to the cellular network? And it is because the
20 messaging server is not a core network element. Why is it
21 not a core network element? It does not do core network
22 element functionality. What is core network functionality?
23 It's the switching and the lookup that you have to do in the
24 cellular network to connect the phones to the other phones
25 and to the outside networks, like the landlines and the

Akl - Direct

32

1 internet.

2 The messaging servers don't do that. The messaging
3 servers store and query. What is the brains behind the
4 delivery? It's the cellular network. So the messaging
5 servers don't do the routing. I know we heard Sprint's
6 counsel at the opening say he was texting his wife and the
7 messaging servers do the routing and do the querying. They
8 don't. The querying and the routing is done in the cellular
9 network. The messaging servers get a message, hold onto it.
10 And then they're going to ask the cellular network is the
11 phone ready? The cellular network is going to do that
12 querying, it's going to check, it's going to return a
13 response to the messaging server and then the messaging
14 server is going to put the message in and the cellular
15 network is going to deliver it, is going to do the switching.
16 And we're going to walk through all the steps again, but this
17 is an overview of where we're headed.

18 Q So you just referred to Sprint's counsel's opening
19 argument with respect to routing. Could you explain what
20 routing means?

21 A Yes. Routing is the same as switching. It's the ability
22 to deliver the information. And what's doing the routing or
23 the switching are the packet switching notes and the mobile
24 switching centers. That's what's doing the switching and
25 they do that in conjunction with the subscriber database that

Akl - Direct

33

1 gives them the lookout.

2 So going back to y analogy, that's the operator.
3 The switching is connecting the wires. This is what Lily
4 Tomlin was doing in the '50s on those skits. And the lookup
5 are the notebooks that you look up the subscriber
6 information. The messaging servers don't do that. And the
7 definition that the Court gave us for a messaging server does
8 not include that functionality. It only includes the two
9 functionalities of storing and forwarding and sending an
10 inquiry. And that's what they do.

11 Q But Sprint's -- and I know we're going to go into detail
12 through the claims, but since you're talking about routing
13 Sprint's messaging servers do deliver the message, right, and
14 we're going to talk about the call flow but they do deliver
15 the message, and so doesn't that mean that those messaging
16 servers do routing?

17 A No, because they're not doing the routing themselves.
18 That's the key functionality. The routing is being done by
19 the cellular network. The messaging servers are holding onto
20 the message. Then they ask the cellular network, is the
21 phone ready? Can the phone receive? The cellular network
22 returns the message yes or no. If the message is yes and
23 then the messaging service is going to forward. The
24 forwarding isn't -- the forwarding part into the cellular
25 network, that's not the routing, that's not the switching.

Akl - Direct

34

1 That's what's done in the cellular network.

2 A Well, what is the difference between forwarding and
3 switching, or forwarding and routing?

4 A So forwarding is I'm giving you something and then
5 someone else is actually doing the work of delivering it.
6 That's what the cellular network is doing. That's what the
7 packet -- packet switching notes are doing. We have
8 identified core network elements. The packet switching notes
9 are doing switching. We've identified the mobile switching
10 center. Those are the mobile switching center, the PDSN or
11 the FA and the HA. We've already identified the core network
12 elements that are doing the switching. It's not the
13 messaging servers.

14 Q Okay. During Sprint's counsel's opening argument, do you
15 remember, do you recall him saying that the messaging server
16 actually figures out whether the phone is set up to receive
17 the messages?

18 A Yes.

19 Q Is that your understanding of how Sprint's messaging
20 servers work?

21 A No. The messaging servers don't figure anything out.
22 The messaging servers can't figure it out because they don't
23 have that information. The messaging server received the
24 message. They have the phone number and that's all they do.
25 What they do is they send a query. They ask the cellular

Akl - Direct

35

1 network. And we're going to look at additional documents
2 that show how the messaging server are going to ask the
3 cellular network, they're going to sent that phone number in,
4 and they're going to ask it, tell me about the phone. Is the
5 phone ready to receive? And that query is going to be --
6 that information is going to be determined in the cellular
7 network and a response is going to go back from the cellular
8 network to the messaging server. So the messaging server is
9 going to know the result, and then proceed. But that's not
10 the one that's doing the determination. That's the key. It's
11 not determining anything. It's getting the result of the
12 determination that is happening in the cellular network.

13 Q Okay. I think you may have covered what's on your slide
14 74?

15 A Yes. So here I'm just showing that Sprint does have a
16 cellular network. Sprint does have a messaging network and
17 the two networks talk together. They work together well.
18 But in how they are set up, in how they talk to each other,
19 they infringe the Comcast patent. That's the point.

20 Q Okay, well let's talk about that.

21 A Okay.

22 Q So I'm going to go to slide 76 and I take it this is our
23 ind of a roadmap of how you're going to walk through your
24 analysis?

25 A Yes. So to show infringement it's Comcast's burden. And

Akl - Direct

36

1 what I have to do is present evidence to that effect. And so
2 to make things as organized as possible, I'm breaking up the
3 analysis in terms of when a Sprint subscriber sends an SMS or
4 an MMS, so whether they send a text message or a multimedia
5 message we're going to talk about those together. And then
6 later when we're filling this table we're going to talk about
7 when a Sprint subscriber receives. And we're going to have
8 different scenarios because Sprint has different subscriber
9 databases. So we need to talk about the inquiries with
10 regard to the SPS, which is one subscriber data, the MLDB
11 which we haven't talked a lot about, but it's basically a
12 precursor to the SPS and a lot of the analysis is going to be
13 similar, and you've heard me talk about the home location
14 register. So we're going to have to look at now exactly what
15 happens in Sprint's network and why they fringe based on
16 their different equipment and what the network does.

17 Q Okay. So you're first going to talk about the SPS and
18 Sprint's infringement related to the SPS when a Sprint
19 subscriber sends an SMS message or an MMS message.

20 A Yes.

21 Q Okay. And you're going to start with Claim 1?

22 A Yes.

23 Q And then you're going to refer to Claim 7 and 113?

24 A Yes. We have to now go through the asserted claims.

25 Q Okay. So what are we seeing on your slide 79?

Akl - Direct

37

1 A So this is a PX-99. This is a Sprint document and what
2 I've done is this is a call flow that was generated by
3 Sprint. So this is their document that they gave to counsel.
4 And I've looked at from the many documents that I've looked
5 at, this is the call flow when you have a subscriber, a
6 Sprint subscriber sending an SMS. So this is a Sprint
7 subscriber sending a text message.

8 And again to orient the jury how we read those, so
9 there's going to be arrows. Again, these arrows were in the
10 document, this is a Sprint document, and we read this left to
11 right, top to bottom. So the boxes on top, the handset
12 that's the phone and the SMSC, that's the messaging server,
13 the SPS, that's the subscriber database.

14 Now, what I've put above that, this is something
15 that I've added. I haven't modified the document, I'm just
16 helping the jury remember. But everything from here in the
17 body of the document, this is a Sprint document. And I'm
18 going to annotate it as we walk through it, but it will be
19 clear what are my annotations and what's in the original
20 document.

21 Q Now, this PX-99, is this the same document we saw before
22 with the high-level messaging architecture?

23 A Yes, and this is page 6. So PX-99.006 means page 6 of
24 that document.

25 Q Is this the only Sprint document that you looked at in

Akl - Direct

38

1 forming your analysis of the -- kind of the call flow through
2 when a Sprint subscriber sends or receives messages?

3 A No. Again I've looked at many documents, I've looked at
4 deposition transcripts and I'm just putting something in
5 front of the jury because we have to put evidence, and this
6 is an example that walks through all the claims and clearly
7 describes the infringement.

8 Q Okay. So what happens first to trigger the infringement?

9 A So the first thing that needs to happen is the user needs
10 to send a text message. And so in the Sprint document this
11 is what is SMDPP, it's what's highlighted here. So this here
12 is my annotation. This is an example. For example, someone,
13 MO is important. MO means mobile originated. So this is
14 someone sending a text. And T means mobile terminated. And
15 you'll see this acronym throughout call flows. So MO, mobile
16 originated, MT, mobile terminated.

17 Right now we're looking at a Sprint subscriber
18 sending an SMS so we care about the MO. And so here we have
19 a user. As an example, I've picked a phone number. And so
20 there is a text message that's going. So this is an example
21 of a text message that's going from the phone to the
22 messaging server. This is my annotation, but the arrow here,
23 this is what actually is in the call flow. This is not an
24 infringing step yet, because this is what starts the process.

25 Q So does the phone number that you have in your sample

Akl - Direct

39

1 text message there, do the from and to phone numbers match up
2 with the MO and MT phone numbers you have above?

3 A Yes. So this is in my example they do. And again this
4 is what triggers the process. This doesn't correspond to
5 direct step but it's like the preamble. You have to have a
6 text message for these steps to kick in.

7 Q So on your slide 82 what just happened?

8 A This is just the next arrow. It says there is an
9 acknowledgement back. It's really not important to the
10 analysis.

11 Q Okay. All right. Now we get to the first step of the
12 claim?

13 A Yes. So this is an infringing step because this step is
14 called MODIP, mobile originating DIP. This is the inquiry,
15 so this matches the first step in the claim, which is you
16 need to send an inquiry from the messaging server to the
17 cellular network with information, with said information
18 relating to the terminal. That's going to be the phone
19 number, and that comprises a first identifier, identifying
20 set terminal. So that's the phone number that's included in
21 the MODIP message from the messaging server to the SPS in
22 this example.

23 Q And did the Court construe the phrase that's shown in
24 your white box on step one, the phrase specific identifier
25 external to the cellular network?

Akl - Direct

40

1 A Yes. So far we've looked at two definitions from the
2 Court. We looked at a definition for cellular network and we
3 looked at a definition for messaging server. We have another
4 definition, so the Court has provided a definition for a
5 specific identifier external to the cellular network and the
6 Court said that means a specific identifier used outside and
7 inside the cellular network to identify a specific wireless
8 terminal.

9 So the phone number as it's referred to in these
10 documents, it's an MDN but it's basically a phone number,
11 that meets the Court's construction. Because the phone
12 number is an external identifier. It is used outside and
13 inside and it identifies a phone.

14 Q Well, how is a phone number used outside in a cellular
15 network?

16 A Because the phone number is what you give people so that
17 they can call you. So it is a number -- it is an identifier
18 that's used to identify your phone, and it is external. You
19 give it to people so it meets the Court's definition, and
20 it's also used in the cellular network as we will see. So it
21 meets the Court's construction.

22 Q Okay. And then I believe you were referring to yet
23 another acronym called MDN. What is that?

24 A So MDN stands for mobile directory number. Again that's
25 just the phone number, and looking at testimony from Sprint

Akl - Direct

41

1 engineer, this is Mr. Hoelzle. He confirmed when he was
2 asked, Is MDN a mobile directory number and he answered yes.
3 And that would be like a user's telephone number, is that
4 fair to say? And he answered yes. So the testimony confirms
5 what I looked at in the documents, that the MDN is the phone
6 number and that is the first identifier.

7 Q Okay. And I meant to ask you because I think we're going
8 to see it a lot as we walk through the call flow, what does
9 MODIP mean again?

10 A So MO means mobile originated. And that's the label. So
11 these labels, you know, somebody at Sprint when they created
12 the document they gave them labels. And that's just the name
13 of the arrow. It's MODIP.

14 Q Okay. And is an MODIP sent every time a Sprint
15 subscriber sends an SMS message?

16 A Yes.

17 Q And has that been true since the beginning of the use of
18 the SPS?

19 A Yes.

20 Q What are you showing with this deposition testimony on
21 your slide 86?

22 A So the testimony that the Sprint engineer was asked is,
23 Would that be the MDN of both the originator and the
24 recipient, and he answered no. And so he's asked, Would you
25 perform one query using the MDN of the originator and a

Akl - Direct

42

1 separate query for an MDN of the recipient, and he answered
2 yes.

3 Later we're going to look at when the -- there is an
4 MTDIP that we're going to look at later. So this is
5 confirming that the MODIP is containing the one phone number,
6 and that's the originating phone number that's relevant to
7 what we're looking at.

8 When we are looking at the MT message, it's going to
9 have a second phone number, so this is testimony confirming
10 that.

11 Q Okay, are we going to move on to step two?

12 A Yes. So the second step, now we need to have a mapping
13 from this first identifier, so we need to have a mapping from
14 this phone number to a specific second identifier in the
15 cellular network. The second identifier being an internal
16 identifier of the cellular network.

17 So we have to now -- so this is our first step, so
18 this is step one. And now in the SPS, and the SPS is the
19 subscriber database that has the MDN, the phone number, it's
20 going to be doing a mapping, because we need a mapping. So
21 there is a mapping that's now taking the first identifier and
22 it is doing a mapping to a second identifier.

23 Q And what is the second identifier called?

24 A The second identifier is called Final DN and there's a
25 lot of information associated with that second identifier.

Akl - Direct

43

1 This second identifier meets the Court's claim construction.
2 And for the internal identifier we have another definition.
3 So the definition that the Court gave us says "An internal
4 identifier of the cellular network means an identifier used
5 inside the cellular network to identify a specific wireless
6 terminal which may, but need not be, revealed outside the
7 cellular network.

8 So for this analysis I have relied on Dr. Dwoskin.
9 You're going to hear from Dr. Dwoskin later. He looked at
10 the SPS and the MLdap databases. And so he did his analysis.
11 I talked with him on the phone. He wrote a report. And in
12 his report, in his analysis that you're going to hear later,
13 he identifies the final DN as an identifier that identifies -
14 - that's used inside as an internal identifier that
15 identifies a specific wireless terminal.

16 So I took the analysis that he did and then I
17 applied it to the Court's claim construction. And so my
18 conclusion is that the final DN meets the Court's claim
19 construction of being the second identifier because it's used
20 inside and it identifies a phone.

21 Q Okay. Step three?

22 A Step three, now we need to be able to do the determining.
23 So we need to determine said information relating to the
24 terminal with the aid of said second identifier. So the
25 second identifier, that's the final DN, we said that's the

Akl - Direct

44

1 second identifier, and there is a determination being done in
2 the SPS, and the SPS is going to return attributes,
3 attributes about the phone. And there's going to be
4 different attributes.

5 An example is the SMS Allow (ph). So, SMS Allow
6 message so that's an example of an attribute. The claim
7 doesn't require what attributes. It just says you need to be
8 able to determine information. And there's information
9 that's being determined using the internal identifier.

10 That's a step three.

11 And then in step four we need to send the response.
12 So again the cellular network and the SPS is what's doing the
13 determination and now it's sending the response. The fourth
14 step is the subscriber found, that's the label in Sprint's
15 document for the message going from the SPS back to the
16 messaging center.

17 Q So, Dr. Akl, do you have an understanding of why Sprint's
18 network is doing the lookup for the phone that's sending?
19 We've heard a lot about why the cell network does a lookup to
20 find out where the phone is that's going to receive the
21 message, but why is Sprint's network doing a lookup to
22 determine information about the sending phone?

23 A Because the network needs to make sure that when someone
24 is sending a text message that that person is authorized,
25 their account is up to date, their subscriber information is

Akl - Direct

45

1 current. So that information -- and they're allowed to send
2 a text message. So there is reason why this lookup is done
3 so that before the next step happens, you need to be able to
4 authorize that yes, check and make sure this user that is
5 sending a text is allowed to do so.

6 Q Okay. And with respect to the fourth step there's a
7 requirement in there that the response message contain or it
8 says "in which." Do you see the "in which" sentence towards
9 the end of that paragraph?

10 A Yes.

11 Q It says in which response message the information
12 relating to said terminal is indicated with the aid of said
13 first identifier?

14 A Yes.

15 Q Did the Court help us with our claim construction with
16 respect to that portion?

17 A Yes. There is a Court construction and the Court's
18 definition which we adopt and we use in the analysis says
19 with the aid of first identifier means with the aid of the
20 first identifier where the first identifier -- and remember,
21 that was an example, it's like the phone number -- the first
22 identifier may but need not be included in the in the
23 response message.

24 So the response message needs to be able to tell the
25 messaging server that, you know, you've sent a phone number.

Akl - Direct

46

1 I'm going to give you a response. And I may include that
2 phone number so you know to correlate my response with your
3 inquiry, but I don't necessarily need to include the phone
4 number as long as you can determine with the aid of the first
5 identifier you've met the Court's claim construction.

6 Q And is the response message that Sprint SPS sends back to
7 Sprint's SMFC, does that meet the limitation --

8 A Yes.

9 Q -- under the Court's construction?

10 A Yes, it does.

11 Q Okay. And is that because it's included in the message
12 itself?

13 A Yes. So here the phone number is included.

14 Q Okay, so now I'll have you just explain to the jury your
15 analysis for your opinion that Sprint infringes the claim
16 when a Sprint subscriber sends an SMS message in conjunction
17 with the SPS?

18 A Yes.

19 Q Okay. We're now going to turn to claim 7?

20 A Yes.

21 Q Okay. The jury has not seen claim 7 before, I don't
22 think. Can you explain it to the jury?

23 A Yes. So claim 7 is a dependent claim. And what that
24 means is, it starts out by saying a method according to claim
25 1. So it depends on claim 1. We have already walked through

Akl - Direct

47

1 claim 1, all the steps of claim 1 are infringed. And
2 additionally when you have a dependent claim it adds
3 additional restriction.

4 So the claim 7 now says wherein said inquiry, so
5 said inquiry is referring back to the inquiry in claim 1, is
6 sent to a specific network element of the cellular network,
7 and that said network element determines said information
8 relating to the terminal MS using said second identifier.

9 So it's a lot of words that is saying that the
10 inquiry in claim 1 in the cellular network is being done by
11 the network element. And so in this case it's the SPS. The
12 SPS received the first identifier. It mapped it to the
13 second identifier. It's doing the determining so it's
14 already meeting the determination of claim 7. So this is all
15 we need to show that the SPS that we've already described
16 infringes claim 7.

17 Q Okay. Turning to claim 113.

18 A Yes.

19 Q Can you describe claim 113 for the jury, or maybe what's
20 different as between claim 113 and claim 1?

21 A Yes. So claim 113 is being asserted. Claim 113 is very
22 similar to claim 7. But claim 13 is a method claim of claim
23 112, which means we have to go through claim 112. And this
24 is claim 112.

25 The good news is that claim 112 is very similar to

Akl - Direct

48

1 claim 1. So instead of walking through all the steps,
2 they're going to all be the same. I'm going to focus on
3 what's different.

4 So what's different in claim 112 is what I've
5 highlighted in yellow. And for step two it says wherein the
6 mapping is not performed by a home location register. That's
7 the only difference between claim 112 and claim 1. So not
8 only do we have the mapping, but it's performed by something
9 other than the home location register.

10 We were talking about the SPS. The SPS is different
11 than the home location register. So the analysis that we've
12 done for claim 1, I don't need to go through it again, it
13 infringes claim 112.

14 And for claim 113 it says wherein the inquiry is set
15 to and the determining is performed, this is just like claim
16 7 which we've already described. So I don't need to do
17 anything additional. The analysis that I did for claim 1 and
18 claim 7 carries over and Sprint infringes claim 113.

19 Q Has the Court given us a construction of home location
20 register?

21 A No.

22 Q So how do you know that this Sprint subscriber database
23 called the SPS subscriber profile system, how do you know
24 that is not a home location register as home location
25 register is used in the patent?

Akl - Direct

49

1 A So there is a home location register. And the home
2 location register contains location information about the
3 phone. So there is a different subscriber database that is
4 the home location register that contains location
5 information. The SPS is not such subscriber database. It
6 does not contain location information, it is not a home
7 location register and so it infringes claim 113 and 112.

8 Q Okay. So are we looking at the same call flow that we
9 just looked at on your slide 98?

10 A We're looking at a similar call flow. What's different
11 here is this is a Sprint 2ICG. So this is the intercarrier
12 gateway. So at the beginning I said I'm going to divide it
13 into a Sprint subscriber sending a text. They can send a
14 text to another Sprint subscriber which is what we've
15 described. They can send a text to a subscriber on a
16 different network.

17 Now, the two steps that we've worked through are the
18 same so I don't have to repeat the analysis but they are
19 equally applicable when a Sprint user sends a message, a text
20 message, an SMS to somebody that is not on the Sprint
21 network.

22 Q So the call flow you had just walked through and showed
23 the jury to show Sprint infringement of claims 1, 7 and 113,
24 what was that call flow directed to?

25 A It was Sprint to Sprint.

Akl - Direct

50

1 Q A Sprint subscriber sending an SMS message to another
2 Sprint subscriber?

3 A Yes. And this is why I've circled the heading here.
4 It's now Sprint to ICG, inter-carrier gateway. So some of
5 these steps are going to be similar, some are going to be
6 different. But what's the infringing step is going to be the
7 same. So instead of walking through all the details it all
8 carries over.

9 Q So this would -- a Sprint subscriber sending in SMS2, for
10 example a Verizon subscriber, the same steps that you just
11 walked through would be followed?

12 A Yes. The MODIP step, that's the infringing step. This
13 is the querying, and then the mapping happens in the SPS just
14 like we walked through the determining happens in the SPS and
15 then the response goes back, just like we walked through,
16 those are the MODIP and subscriber found, these are the
17 infringing steps.

18 Q Okay. So I just put the slide to slide 99. Are you now
19 going to talk about MMS?

20 A Yes.

21 Q Okay. Before you talk about MMS, let me ask you, since
22 Sprint started using the SPS, every time a Sprint subscriber
23 has sent an SMS message, whether to another Sprint subscriber
24 or to a subscriber on another network, every time that has
25 happened has Sprint infringed claims 1, 7 and 113?

Akl - Direct

51

1 A Yes.

2 Q And is that for the reasons you laid out?

3 A Yes.

4 Q Okay. So what are you showing on slide 99?

5 A So slide 99, the difference is now we're going to look at
6 a Sprint subscriber sending an MMS before we're looking at
7 SMS. So the difference is in sending, you're sending a text
8 message, you're sending a multi-media message. So one thing
9 you're going to notice is now we have an MMSC. This is the
10 messaging server for multi-media messages. Before we had an
11 SMSC, see now it's sitting on this side, this is the SMSC.
12 But the MMSC is going to -- you're going to have the same two
13 infringing steps. We have the MOLDAP before it was called
14 MODIP. It's the same infringing step. And we have the
15 subscriber found. That's the response, and that's the
16 inquiry.

17 So for the same reasons that we have waled though in
18 terms of the first step, the mapping, the determination and
19 then the response, when a Sprint subscriber sends an MMS, the
20 MMSC sending and communicating with the SPS infringes the
21 claim 1.

22 Q So in terms of the sending, and then what happens inside
23 the SPS for the mapng step, the determining step and the
24 responding step, you're saying that those are the same, it's
25 the same process, even though now we're talking about an MMS

Akl - Direct

52

1 message and not an SMS message?

2 A Yes. Because again, the message is still in the MMSC
3 messaging server and it's just sending an inquiry. The
4 inquiry is going to be the same. It's asking is the
5 subscriber, you know, with the subscriber's phone number it's
6 going to get a response, so the process is the same. It
7 infringes claim one. The determination is done in the SPS so
8 it infringes claim 7. And the SPS is not a home location
9 register so it infringes claim 113.

10 Q Okay. Now we're looking at a Sprint subscriber sending
11 an SMS to the ICG again?

12 A Yes. So we looked at sending a multi-media message from
13 Sprint to Sprint, and we looked at one portion of it which is
14 the sending part. Again it's if a Sprint subscriber is now
15 sending a multi-media message to somebody outside Sprint's
16 network so it's now to the ICG. This is inter-carrier
17 gateway. So the two steps, the two infringing steps of the
18 MMSC to the SPS, and then the mapping, the determination and
19 then the response, those are the same. So the same reasons
20 we've talked about before, Sprint subscribers sending an MMS
21 to somebody outside Sprint's network infringes claims 1, 7
22 and 113.

23 Q Okay. Doctor, I forgot to ask you earlier, I think, but
24 Sprint's SMSC and Sprint's MMSC, are each of those messaging
25 servers under the Court's construction of messaging server?

Akl - Direct

53

1 A Yes.

2 Q So what two functions do Sprint's MMSC and SMSC perform?

3 A The Court's construction says the messaging server needs
4 to be able to store forward and it needs to be able to do
5 an inquiry. And Sprint's MMSC and the SMSC do the storing
6 and forwarding and then they do the inquiry. Sometimes the
7 inquiry is done directly. Sometimes it's done through a
8 router or a gateway like a -- more acronyms like OMG PDR SLP,
9 that doesn't really change the analysis. Sprint still has a
10 messaging server that is meeting the Court's claim
11 construction.

12 Q Okay. So in terms of MMS, every time that a Sprint
13 subscriber sends an MMS message and there's a lookup to the
14 SPS, has every time that that has happened infringed, had
15 been an infringement of claims 1, 7 and 113 of the patent?

16 A Yes. So again for the MMSC it does meet the Court's
17 construction. They do the sorting and forwarding and they do
18 the querying at different times either directly or through --
19 for the MMSC, the SLP or HSP and other acronyms, high speed
20 proxy.

21 So again the Court's construction is met by Sprint's
22 messaging servers.

23 Q Okay. So what are you showing on your slide 101?

24 A So we are done with the first box. It's going to go a
25 lot faster, but we have to walk through them. So we've shown

Akl - Direct

54

1 that when a Sprint subscriber sends an SMS or MMS, it doesn't
2 matter if it's to another Sprint subscriber or somebody
3 outside of Sprint's network, using the SPS it infringes
4 claims 1, 7, and 113.

5 Q Okay. So now you're going to switch gears and talk about
6 what happens when a Sprint subscriber is receiving an SMS or
7 MMS message in conjunction with the SPS?

8 A Yes.

9 THE COURT: I think before we do that we ought to
10 take a break.

11 Let's take a ten-minute recess. I would like Juror
12 Number 1 to remain in the courtroom to discuss
13 transportation. That's all we're going to do.

14 DEPUTY CLERK: All rise.

15 THE COURT: Counsel -- be seated, everyone. Let's
16 go to sidebar and why don't you walk over.

17 (Sidebar discussion as follows:)

18 JUROR NUMBER 1: Everything's fine. It's your
19 courtroom, you're the boss.

20 THE COURT: No, no, I want to make it easy for you.

21 JUROR NUMBER 1: It's easy enough.

22 THE COURT: For example tonight.

23 JUROR NUMBER 1: We're good.

24 THE COURT: Well, where's your car, at the bus
25 terminal?

Akl - Direct

55

1 JUROR NUMBER 1: Yes, sir.

2 THE COURT: Well, how do you get from -- you can't
3 drive back so you'd have to take a train. How would you get
4 from Philadelphia --

5 JUROR NUMBER 1: Oh, from my house -- I mean the bus
6 terminal where I'm at, I'm about five miles away from where
7 that is.

8 THE COURT: How would you --

9 JUROR NUMBER 1: I'd take my car from the parking
10 lot there.

11 THE COURT: That's in the bus terminal?

12 JUROR NUMBER 1. Right.

13 THE COURT: But how would you get back to Reading
14 tonight if we go to 4:45. I'm not going to have you get home
15 at 9:00 o'clock.

16 JUROR NUMBER 1: No, that's -- it's your courtroom.
17 You're the boss.

18 THE COURT: I know that. (Laughter.)

19 (Off the record discussion.)

20 THE COURT: Tonight, the only way you can get back
21 to your car is by bus?

22 JUROR NUMBER 1: Right.

23 THE COURT: So we'll recess at 4:30 --

24 JUROR NUMBER 1: No.

25 THE COURT: No, no, we'll recess at 4:25. All we'll

Akl - Direct

56

1 do, and tomorrow you've requested that we recess --

2 JUROR NUMBER 1: Yeah. That's the only night, you
3 know, I --

4 THE COURT: For tomorrow. But on Monday what we'd
5 like you to do is try another method of transportation. Have
6 you considered the train?

7 JUROR NUMBER 1: I wouldn't even know where to get
8 the train. She said Norristown, that's a --

9 THE COURT: We're not going to do that. Then the
10 choice is driving. Well, you can try that and then tell us
11 whether it works. If it doesn't work, we're going back to
12 4:40. You've got a busy day. You've got to sit there and
13 listen. We all have to sit and listen.

14 JUROR NUMBER 1: Mm-hmm.

15 THE COURT: And I don't want you worrying about
16 getting home.

17 JUROR NUMBER 1: I'm not worried about getting home.

18 THE COURT: We'll make it as easy as possible.

19 JUROR NUMBER 1: Besides, in fact men our age
20 (indiscernible) he'd be here, we'd go up and see the auto
21 show. So it's (indiscernible).

22 THE COURT: Thank you for taking that approach. But
23 tonight we'll recess either at 4:20 or 4:25 so you can catch
24 the early bus. I do not want you catching the bus that gets
25 there at 9:00 o'clock. You don't get home at 9:00 o'clock,

Akl - Direct

57

1 you've got to eat dinner.

2 JUROR NUMBER 1: Well, yeah.

3 THE COURT: What time do you get up in the morning
4 to get here?

5 JUROR NUMBER 1: Oh, about ten of 5:00. That's my
6 normal weekday work day.

7 THE COURT: Okay. But we're going to accommodate
8 you. So today 4:20 or 4:25. Your idea of leaving here at
9 4:30 and catching a 4:40 bus means you'd have to be in very
10 good shape, like sprint from here, Sprint, you know. Sprint
11 from here to the bus terminal. We're not doing that.

12 JUROR NUMBER 1: I'm used to getting in -- I worked
13 7:00 to 5:00 every day it was like doesn't matter.

14 THE COURT: I understand that.

15 JUROR NUMBER 1: It's no big deal.

16 THE COURT: You'll take the bus tonight at 4:45.
17 We'll do the same thing tomorrow. On Monday try another way
18 of getting here and report to me at the end of the day how it
19 works.

20 JUROR NUMBER 1: Okay.

21 THE COURT: And we'll see what we're going to do
22 next week.

23 JUROR NUMBER 1: All right.

24 THE COURT: Everyone agrees. Everybody wants to
25 make it easy for you. Both sides, equally cooperative.

Akl - Direct

58

1 JUROR NUMBER 1: (Indiscernible) Friday, that's all
2 that matters, really.

3 THE COURT: 4:20 or 25 tonight and tomorrow. And
4 you'll tell us what happens on Monday.

5 JUROR NUMBER 1: Okay. You know, I was watching the
6 way that he come down this morning, takes some kinds of back
7 ways sometimes.

8 THE COURT: Okay. Anything else? I don't think so.
9 So thank you.

10 JUROR NUMBER 1: Thank you, your Honor.

11 Gentlemen, thank you.

12 (End of sidebar discussion.)

13 (Recess taken from 3:12 p.m. until 3:26 p.m.)

14 (Jury in at 3:27 o'clock p.m.)

15 THE COURT: Be seated, everyone.

16 You may continue.

17 MR. GOETTLE: Thank you, your Honor.

18 BY MR. GOETTLE:

19 Q So, Dr. Akl, are you now going to talk about Sprint's
20 infringement with respect to the SPS when a Sprint subscriber
21 receives an SMS message or an MMS message?

22 A Yes.

23 Q Okay. So what did we just see -- let's do that again,
24 that was cool. What are we seeing there?

25 A So this is the call-flow diagram in Sprint's documents

Akl - Direct

59

1 and we were looking at these two, which is the MO-DAP and
2 subscriber found, this is the mobile originator. And now
3 what we are looking at are two different exchanges between
4 the SM-SC and the SPS. So we're going to look at MT-DAP. MT
5 means mobile terminated. So this is now -- this is going to
6 meet the sending step, the inquiry that's going to go between
7 the messaging server and the cellular network, which is going
8 to contain an external identifier. The external identifier
9 in this case is now the phone number of the person that the
10 message is intended for.

11 So in this example we're going to have the inquiry
12 step and it's going to have the phone number. We saw earlier
13 testimony from Mr. Hoelzle when he was asked about the MDN,
14 which is the phone number, and he did confirm that there are
15 two inquiries, each one has the phone number. So we talked
16 about the first inquiry with the sending phone number, now
17 there is the second inquiry with the destination phone
18 number. For the same reasons the phone number meets the
19 Court's construction for an external identifier, that is a
20 specific identifier to the cellular network. In this case
21 also it meets the Court's construction. It is a specific
22 identifier that's used outside and inside the cellular
23 network to identify a specific wireless terminal, in this
24 case it's the receiving phone number, the phone.

25 Q Okay. So you've completed your analysis of step one?

Akl - Direct

60

1 A Yes.

2 Q Now, is your analysis -- is it safe to say that your
3 analysis of the next three steps are very similar to what the
4 jury has already seen?

5 A Yes. So instead of now looking up based on the sending
6 phone number, there is going to be a mapping based on the
7 destination phone number, the same -- the values are going to
8 be different of course for the final DN, but the final DN is
9 going to be the second identifier for the same reasons I've
10 gone through before. I've relied on Dr. Dwoskin, he did the
11 analysis on this database. And then I looked at the final
12 DN, he told me it identifies a cell phone. I compared that
13 with the Court's construction; it meets the Court's
14 construction as an identifier that's used inside the cellular
15 network to identify a specific wireless terminal and it may,
16 but need not be revealed outside the cellular network.

17 So the same analysis that I did before carries over
18 or is similar in this case. And the final DN --

19 Q Oh, I'm sorry.

20 A -- is then used -- no, that's fine -- is then used. I'm
21 sure the jury appreciates us going a little faster. Now the
22 final DN is used into the third step, we need to do the
23 determining. So for the determining set information, again
24 the search is run in the SPS, we have attributes. Here the
25 attributes for example is did the receiving phone number can

Akl - Direct

61

1 receive an SMS.

2 So we have attributes that go back and then we end
3 up with step four, where you send a response, and in the
4 fourth step is the subscriber found. So very similar to the
5 first two steps but now they're geared with the destination
6 with the destination phone number instead of the originating
7 phone number.

8 Q And for the same reasons that you described before with
9 respect to Sprint's subscriber sending an SMS, this response
10 message also includes -- identifies the information with the
11 aid of the specific -- with the first identifier?

12 A Yes. So the phone number is included, this is for the
13 last part of the fourth step. We have the Court's
14 construction, it meets the Court's construction, also in
15 which the response message, the information relating to said
16 terminal is indicated with the aid of said first identifier.

17 Q Have you completed your analysis of Claim 1?

18 A Yes.

19 Q So turning to Claim 7?

20 A Yes. With regards to Claim 7, again it's similar to what
21 we've looked at before. The SPS is the one that is the
22 specific network element of the cellular network and said
23 network element determines that information. The SPS is
24 what's doing the determination using said second identifier.
25 So it does meet the language and it does infringe Claim 7.

Akl - Direct

62

1 Q Okay. And Claim 113, sir?

2 A The SPS is not a home location register. We've talked
3 about the differences. There is no phone location
4 information in the SPS, it's a different subscriber database
5 that is a core network element, but is not a home location
6 register. And so there is infringement for Claim 112 and
7 113; 113 is what's asserted.

8 Q Okay. And so the claim that we're seeing up on your
9 slide 112 that's showing page 6 of PX-99, that's a call flow
10 when a Sprint subscriber is sending an SMS message to another
11 Sprint subscriber?

12 A Yes.

13 Q And so you were talking about the infringement that
14 happens when a Sprint subscriber receives from another Sprint
15 subscriber?

16 A Yes.

17 Q Okay. And so on slide 113, are you addressing the call -
18 - showing the call flow for when a -- for example a Verizon
19 subscriber or another network subscriber sends a message to a
20 Sprint subscriber?

21 A Yes. So looking at the title, this is again a Sprint
22 document and the heading is "SMS ICG to Sprint." So you have
23 a message coming from the inter-carrier gateway to the Sprint
24 subscriber. And so we still have the two steps, a mobile
25 terminated DATABASE going from the SMSC to the SPS and the

Akl - Direct

63

1 subscriber found. And so for the same reasons, when a Sprint
2 subscriber receives an SMS, whether it's coming from another
3 Sprint subscriber or it's coming from somebody outside the
4 network, the receiving steps infringe.

5 Q Okay. So since Sprint started using the SPS, since the
6 time that Sprint started using the SPS, for every SMS message
7 that a Sprint subscriber receive did Sprint infringe Claims
8 1, 7 and 113?

9 A Yes.

10 Q And actually I just noticed that -- I just noticed a typo
11 maybe, Dr. Akl, on your slides where it says 13 at the top,
12 that should be 113?

13 A Yes, right here.

14 Q Okay. Now you're going to talk about MMS?

15 A Yes.

16 Q So the difference is we have a Sprint subscriber
17 receiving an MMS instead of an SMS. So they are receiving a
18 multimedia message, this is from Sprint to Sprint multimedia
19 message, and we are focusing on the receiving part. So we
20 still have the MTL-DAP and the subscriber found, instead of
21 an SMSC, we have the MMSC, this is the multimedia messaging
22 server that's doing the inquiry to the SPS and then it's
23 receiving a response back. So the infringing steps are the
24 same as what we discussed before.

25 Q So is it safe for the jury to think about it as if the

Akl - Direct

64

1 type of messages is not pertinent to the analysis, but it's
2 what happens after the message gets received by the messaging
3 server?

4 A Yes.

5 Q Okay.

6 A Because the query is the same. You're querying, you're
7 asking is the phone ready, can the phone receive, and we're
8 getting a response. That querying, that lookup is done in
9 the cellular network, that's the point, it's not done in the
10 messaging server, and then the response is sent to the
11 messaging server.

12 Q Okay. So your slide 114 is talking about an MMS being
13 sent to a Sprint subscriber from another Sprint subscriber?

14 A Yes --

15 Q Okay.

16 A -- Sprint to Sprint MMS --

17 Q Oh, I'm sorry.

18 A That's fine, the highlighting still stands. Here we have
19 MMS ICG to Sprint, so we have an inter-carrier gateway. So
20 you have a multimedia message coming from somebody outside,
21 like from AT&T or Verizon or T-Mobile or a different carrier,
22 texting a multimedia message to a Sprint subscriber.

23 Q Okay. So in sum, for MMS did Sprint infringe with
24 respect to the SPS every time a Sprint subscriber received an
25 MMS message for the reasons you just described?

Akl - Direct

65

1 A Yes.

2 Q And that's from the period of time when Sprint first
3 started to use the SPS?

4 A Yes.

5 Q So what -- your slide 116, what are you showing?

6 A Yes. So we've completed the first column under SPS and
7 we've shown that when a Sprint subscriber sends or receives
8 an SMS or an MMS there is infringement of Claims 1, 7 and 113
9 by the SPS.

10 Q Okay. So you alluded to this before, but we have a
11 column heading that says MLDAP; what is that?

12 A This is a messaging LDAP. it is a subscriber database
13 like the SPS, it was used by Sprint before they switched to
14 the SPS. A lot of the attributes and the functionality is
15 going to be very similar, I've confirmed that looking at
16 documents and looking at testimony and looking at the
17 analysis that Dr. Dwoskin has done, and so I'm going to focus
18 more on what's different for the analysis to go speedily
19 today.

20 Q Okay. So can you explain to the jury what the -- MLDAP
21 stands for messaging LDAP?

22 A Yes.

23 Q So before we talk about what is the messaging LDAP, what
24 is LDAP?

25 A So LDAP is a protocol, it's a database protocol, so it's

Akl - Direct

66

1 an acronym for a protocol, for a database protocol. And the
2 message LDAP is a database that's used for messaging --

3 Q Okay. And --

4 A -- among other things.

5 Q -- then what is -- what type of information is stored --
6 was -- is Sprint still using the messaging LDAP?

7 A No.

8 Q What type of data was stored in Sprint's messaging LDAP?

9 A The attributes that we saw in the SPS, they're very
10 similar to the attributes that were in the messaging LDAP.
11 In fact looking at the testimony of Sprint engineers, they
12 took what the MLDAP was doing and they put those attributes
13 in the SPS and the SPS does more.

14 Q Okay. And how similar was the SPS and the messaging
15 LDAP?

16 A They're very similar and there's testimony here. "For
17 example, prior to the use of Sprint's SPS, Sprint had a
18 system called the messaging LDAP?" The Sprint engineer Mr.
19 Hoelzle answered, "Yes.

20 "Sprint's SPS is used for user authentication?" He
21 answered, "Yes.

22 "And was the messaging LDAP also used for
23 authentication?" He answered, "Yes.

24 "And the messaging LDAP was a system that was used
25 that used and LDAP query" -- again, LDAP is a light

Akl - Direct

67

1 directory, the protocol -- "a query to retrieve subscriber
2 information?"

3 And he said, "The messaging LDAP was more or less
4 equivalent to the SPS in terms of function."

5 So again, the analysis that we have for the SPS and
6 what we've walked through with the jury carries over for the
7 messaging LDAP and I will highlight what's different in the
8 next couple slides.

9 Q Okay. So was the messaging LDAP, when it was used in
10 Sprint's cellular network, was the messaging LDAP a core
11 network element of the cellular network?

12 A Yes.

13 Q And why is that?

14 A Because it contained information that allowed -- just
15 like the SPS, it contained information that was core in terms
16 of for you to be able to connect to the Internet, to have the
17 ability of the phones to communicate with the Internet in the
18 packet switching modes, the messaging LDAP contains
19 subscriber information that would allow you to see if the
20 subscriber can connect or not. So there was authentication,
21 there was attributes that were used that was essential in
22 terms of to be able to do the switching, the ability to
23 connect the phone to the outside networks.

24 Q Okay. So we're looking at your slide 118 and I see that
25 we're still on page 6 of PX-99, but it no longer says SPS on

Akl - Direct

68

1 it. Did you change the document?

2 A Yes. So the only difference here is instead of SPS it
3 says messaging LDAP. The call flow is going to be the same
4 and the analysis is going to be the same, the only difference
5 I'm going to highlight on the next slide in terms of the name
6 of the mapping.

7 Q Okay. So is this slide 120 that you're referring?

8 A Yes, so slide 120. So the inquiry, which is step one, is
9 going to be the same. The only difference is going to be the
10 mapping.

11 Q Oh.

12 A So if we go to the next -- to the mapping step. In the
13 mapping step the external identifier is going to be the same,
14 it's still the phone number, which is the MDN, now it's going
15 to be -- the second identifier is what's different. So the
16 second identifier is called entry ID with information
17 associated with it, that is the second identifier that's
18 internal to the cellular network.

19 Again I have relied on Dr. Dwoskin, who's going to
20 walk with the jury his analysis. I looked at what he told me
21 and the work that he did and the report that he generated,
22 that the entry ID identifies, is an internal identifier and
23 it identifies the phone. I compared that with the Court's
24 claim construction and it meets the Court's claim
25 construction that the -- it's an identifier, it's used inside

Akl - Direct

69

1 the cellular network to identify a specific wireless
2 terminal, which may, but need not be revealed outside the
3 cellular. So it meets the Court's claim construction based
4 on what the entry ID does.

5 Q So from your analysis of the messaging LDAP, did Sprint
6 infringe when a Sprint subscriber sent a message in
7 conjunction with the messaging LDAP?

8 A Yes.

9 Q Okay. And that's what you just walked through, you're
10 going to walk through on the receiving side now?

11 A Yes. So on the receiving side you also have
12 infringement. Instead of MO, you have MT. So instead of
13 mobile originating, you have the mobile terminating. So
14 again the identifier is still the phone number, it's a
15 different phone number, it's the phone number of the
16 receiving. So it's this phone number that's going to be in
17 the MT-DAP, but the analysis is going to be the same. So
18 there's going to be a mapping of that phone number, if we
19 look at the next slide, to the entry ID. The entry ID is the
20 internal identifier, it maps -- meets the Court's claim
21 construction, and then there's going to be the determining.

22 You're going to have attributes. The attributes are
23 going to be the same. The ones we talked about with the SPS,
24 the same attributes, more similar attributes are going to go
25 back and be in the response message. So that's the only

Akl - Direct

70

1 difference with the MLDAP compared to the SPS.

2 Q Dr. Akl, I just noticed on the slide on your slide 125
3 where we have the Claim 7 language above it --

4 A Yes.

5 Q -- just so there's no confusion, in the MDN box where --
6 in the big box called "Messaging LDAP, MLDAP," under that it
7 says MDN and that actually has the sending phone number,
8 right, in terms of your example?

9 A Yes. So this number here, the 215, it's actually the
10 sending, for this step it's going to be the receiving. But
11 for Claim 7 you need to be doing the determining by that
12 network element. So the SPS was meeting the language of
13 Claim 7 and the MLDAP will also meet the language of Claim 7
14 for the determining, yes.

15 Q Okay. Claim 113?

16 A Claim 113 again is very similar. The difference between
17 Claim 113 and Claim 1 is you need to have the mapping not
18 performed by the home location register. The MLDAP is not a
19 home location register; it is a subscriber database, it is a
20 core network element. It does not contain location
21 information of the phones like the home location register.
22 So it does meet the language of Claim 112 and so there is
23 infringement for Claim 113 for the reasons that we've walked
24 through.

25 Q Okay. And in terms of the messaging LDAP, so far what

Akl - Direct

71

1 the jury has seen is a call flow where it says Sprint
2 subscriber sending to another Sprint subscriber?

3 A Yes.

4 Q Okay. So on the next slide you're referring to a Sprint
5 subscriber sending to another network's subscriber with
6 respect to the messaging LDAP?

7 A Yes. So we're going to walk through the scenarios, we're
8 going to be walking through them quickly, but it's the same
9 scenarios: Sprint to Sprint, Sprint to non-Sprint, so this
10 is what you see here; we have an SMS message, Sprint to
11 inter-carrier gateway. So this is a Sprint user sending a
12 text message to a user not on the Sprint network, the same
13 steps, the MLDAP and the subscriber found infringed.

14 Q Okay. So let me see, do we have one more? We have one
15 more for the messaging LDAP. So this is now when a Sprint
16 subscriber receives an SMS message from another network?

17 A Yes. So for the Sprint subscriber receiving SMS, so we
18 have an SMS coming from somebody out -- like on AT&T or
19 Verizon or T-Mobile and they're texting a Sprint customer, we
20 have the same two, MT-DAP and subscriber found infringing
21 steps the way that we talked about it before, they don't
22 change regardless whether it's Sprint to Sprint or non-Sprint
23 to Sprint.

24 Q Okay. And what are you showing on your next slide, Slide
25 129?

Akl - Direct

72

1 A So Slide 129 is showing, this is a document that was
2 produced by Sprint and they talk about the open wave LDAP,
3 the MLDAP, the messaging LDAP. They had two different
4 versions, one was from 2003 with Version 5, there was a
5 Version 6.2.1 in 2008. It was used until 2011, November
6 30th, 2011, and it was located in Lenexa, Kansas.

7 Q Okay. So, sir, let's go to this next slide. This is
8 your summary slide for the messaging LDAP and infringement?

9 A Yes.

10 Q Okay. So since the messaging LDAP has been in use, at
11 least for the relevant time period for this case back to
12 February of 2006, for the period of time that the messaging
13 LDAP was used did Sprint infringe every time a Sprint
14 subscriber sent or received an SMS message?

15 A Yes.

16 Q Okay. Turning to the HLR, what are we going to talk
17 about next, Dr. Akl?

18 A Okay. So the HLR is the third database. The good news,
19 depending on how you look at it, is the first row is going to
20 be none, because the HLR contains location information about
21 the phone, you don't need to know the location of the phone
22 that is sending an SMS or an MMS. So when a Sprint
23 subscriber sends an SMS or MMS there is no lookup in the HLR.
24 So this is no, we don't have infringement there.

25 We only have to look at when a Sprint subscriber

Akl - Direct

73

1 receives an SMS or an MMS, there is an inquiry. The network
2 needs to know if the phone is on, if the phone is ready to
3 receive, the location of the phone, that information is going
4 to come from the home location register. So we're going to
5 walk through the steps only for receiving and show
6 infringement.

7 Q Okay. So we're still looking at PX-99 at page 6?

8 A Yes.

9 Q Okay.

10 A So now there are the title or the label in the call flow
11 from the SMSC, this is our messaging server, to the home
12 location register. This is again a Sprint document. It's
13 going to be called SMS-REQ and that's the inquiry that's
14 going to go from the messaging server to the home location
15 register.

16 And so it meets the first step, the inquiry, it's
17 going to contain a first identifier. There is testimony,
18 I've looked at the documents and I've looked at the testimony
19 of the Sprint engineer. He was asked, "What is an SMS
20 request?" He said, "It's an MMS request-invoked message.

21 "What was the purpose of a SMS request-invoked
22 message?" His response was, "The purpose is for the SMSC is
23 to get information from the HLR.

24 "And what information from the HLR is the SMSC
25 getting in response to the SMS request?"

Akl - Direct

74

1 And he goes, "The SMSC is looking for the point code
2 of the MSC." And that's something we haven't talked about in
3 detail.

4 The MSC, if you recall, is the mobile switching
5 center. So those are the core network elements that do the
6 switching, the connection. So in order to know the location
7 of the phone, that's -- so the MSC knows where the phone is.
8 So when it says point code, that's -- the point code of the
9 MSC is the location of the phone, which MSC is serving the
10 phone. So this statement means you're getting phone
11 location.

12 Q And is the phone number included in that SMS request
13 message?

14 A Yes, the phone number is included; there's also a
15 transaction ID that's included.

16 Q So what are we seeing, is that PX-525 on your Slide 137?

17 A Yes.

18 Q What is this showing?

19 A So PX-525 is called a trace and what it traces, it's a
20 very detailed dump of all the information that is in the SMS
21 request. So for example here, this is my annotation, I'm
22 giving you like a highlight that it includes the transaction
23 ID, it's saying where is the phone and a phone number. When
24 you look at the actual interaction it's a very detailed
25 message, but I've highlighted three elements of that message.

Akl - Direct

75

1 So this is an actual trace. This trace PX-525 was done by a
2 Sprint engineer and provided in this matter and it includes
3 the transaction ID, so this is the transaction ID; it
4 includes the mobile directory number, that's the MDN, the
5 phone number; and it includes the actual phone number.

6 Now, again this is -- the 913 is the phone number in
7 that scenario, it's different than the one in my example, but
8 this is showing that the phone number and the transaction ID
9 are included in the SMS request message, looking at the
10 actual trace that's generated by the engineer.

11 Q Okay. So we're on to the mapping step, sir?

12 A Yes. So for the mapping step we need to go and see what
13 the HLR is doing. So we have an MDN, we have a phone number
14 that is coming in, and looking at what the HLR is doing, we
15 need to have a mapping of the MDN to an internal identifier.
16 And for the case of the HLR, the internal identifier is going
17 to be an MSID. This is another acronym we haven't seen
18 before.

19 Q A lot of acronyms.

20 A Yes. So I'm going to have a document that explains --

21 Q Oh.

22 A -- yes. So there is --

23 Q What exhibit are we looking at on your Slide 140?

24 A We are looking at PX-56, these are pages 118 and 119
25 describing the MSID. So the MSID is defined as a ten-digit

Akl - Direct

76

1 MIN, M-I-N, and it's used by the MS, that's the phone, to
2 identify itself to the network. And the document describes
3 how the MSID and the MDN separation, the MIN and the MDN are
4 two distinct numbers, cannot be used interchangeably. So the
5 MSID is another number, it is an internal identifier, it
6 uniquely identifies the phone, and it meets the Court's
7 construction for an internal identifier.

8 Q Dr. Akl, when you were just looking at PX-56 on the
9 slide, you read that there's -- it said "before MSID-MDN
10 separation," do you see that on the screen? Can you circle
11 that if you see it? It's in the very -- yeah -- oh, no --
12 well, okay, that will work. So what does that mean, MSID-MDN
13 separation?

14 A So if you recall earlier I was talking about number
15 portability and how the FCC wants carriers to separate and be
16 able to have a user if they're changing for example from AT&T
17 to Verizon being able to take their phone with them, or they
18 can have different phones at different points in time. And
19 so you want to separate the phone number from the identifier
20 of the phone, the number that identifies the phone, so this
21 way you can take your phone number with you. So this was a
22 requirement in 2003 that Sprint and the other carriers had to
23 do, so you have -- you're not locked in with a specific
24 carrier, you can go, you can keep your phone number.

25 And the ability to do that is inherently in the HLR,

Akl - Direct

77

1 having a separation between the phone number and the MSID
2 helps with the number portability.

3 Q And how would that separation relate to mapping in an HLR
4 since 2003?

5 A So since 2003 you're no longer using the phone number to
6 look up information. You're mapping that phone number to a
7 different identifier, an internal identifier that's
8 associated with the phone, which is the MSID, and then the
9 MSID is used to determine information about a phone.

10 Q So has that mapping from MDN to the MSID, has that
11 happened in Sprint's network with respect to Sprint's HLR
12 since February of 2006?

13 A Yes. Sprint has three different HLRs in different
14 periods of time. They have what they call S-HLR, a
15 standalone HLR; they have an SD-HLR, a super-distributed HLR;
16 and an SDM-HLR, a subscriber data management HLR. They all
17 work basically the same. There is this mapping from the MDN
18 to the MSID in all three of them.

19 So as far as the analysis in terms of the mapping
20 and the determining, all three HLRs do the same thing.

21 Q Okay.

22 A And that was also confirmed looking at Document 10,
23 talking to Sprint engineers.

24 Q Okay. Now you're going to walk through one example of
25 the mapping in one of the HLRs that you mentioned?

Akl - Direct

78

1 A Yes.

2 Q But before we do that, we should first talk about whether
3 the MSID meets the Court's construction of an internal
4 identifier of the cellular network.

5 A Yes. So the MSID is an internal identifier, it
6 identifies a specific wireless terminal and it meets the
7 construction that's provided by the Court, an identifier used
8 inside the cellular network to identify a specific wireless
9 terminal which may, but need not be revealed outside the
10 cellular network.

11 Q Okay. So are we now going to talk about the mapping in
12 one of the S -- excuse me, in one of Sprint's HLRs?

13 A Yes. Now, remember with the SPS and the MLDAP I was
14 relying on Dr. Dwoskin, so I didn't have to go through a lot
15 of details, he's going to go through that. With the HLR, I'm
16 going through the details myself. This is why we're spending
17 a little bit more time on the HLR than we did on the other
18 two.

19 Q So, Dr. Akl, what exhibit are you looking at on your
20 Slide 142?

21 A So this is PX-172 and I'm on page 79. And there are a
22 lot of diagrams and a lot of -- this is a flow chart, I'm
23 going to just focus on the information that's relevant what
24 we look at today.

25 So step 2 in the claim requires the mapping and I

Akl - Direct

79

1 said the mapping is from the MDN to the MSID. And you see
2 there is the directory number, that's the phone number is
3 going to come in and then it's going to be used by the ICH
4 service profile. And the ICH service profile is going to
5 then be used to get the MSID and that's what the testimony --

6 Q Should I -- let me go back, because -- sorry about that.

7 A No, that's fine.

8 Q We're back on Slide 142 with some deposition testimony.

9 Who is the deponent?

10 A So, here the person that's deposed is Mr. Moss.

11 Q Okay.

12 A Again, he's in charge of the HLRs and so, he was asked
13 when an SMS request is sent to the HLR, first it queries the
14 directory number table. This is the directory number table
15 right here and he answers, yes, that's correct. And then
16 does that based on the MDM, right? And the query and his
17 response to the query, on the SMS request, it's coming in at
18 the MDN, so the MDN is the phone number that we looked at.
19 He was asked, then it finds the MDN and then translates that
20 to the IC Service Profile ID. So, we have an IC Service
21 Profile ID and he goes, any by translates, so it locates the
22 entry in the directory number table. It looks at the ICH --
23 that's is here -- the ICH profile, service profile for that
24 subscriber. So, this is the first part of the process.

25 Q Okay.

Akl - Direct

80

1 A The second part is now, we have the ICH Service Profile
2 ID and then that's going to be used in an NCB profile. So,
3 the question to Mr. Moss, again was, the ICH profile service
4 ID is then used to query the NCB profile table and he says
5 yes. And then the NCB profile table masks the ICH profile ID
6 from here to the MIN, which is the MS ID, which is what we
7 saw in the previous document. The MIN is used to query the
8 ANSI phone. This is the next step. So, now up to here, we
9 have the MS ID, which is what we need. So, we've mapped the
10 phone number to an MS ID, which is the internal identifier.

11 Q So, all those steps that you just walked through on those
12 two slides, all that culminates in your conclusion that the
13 HLR maps?

14 A Yes, but I need to go through all the details, it's
15 Comcast's burden to show infringement, so that's why we're
16 here. So, this is the second limitation of the claim. The
17 third limitation in claim, you need to be doing, determine
18 said information related to the terminal with the aid of the
19 second identifier. So, the second identifier is the MSID.
20 Now, with the MSID, we're going to get MSCID, the MSCID is
21 basically the location of the phone. That's the point
22 though, that's the information that we're determining.

23 Q How is that, how is an ID of a mobile switching center a
24 location on the phone?

25 A So, with regard to the cellular network, the cellular

Akl - Direct

81

1 network doesn't need to know exactly where the phone is
2 located in terms of like on the map. It needs to know which
3 mobile switching center is servicing the phone, so it can
4 page the phone, so it can deliver it. So, it needs to know
5 which mobile switching center sent the one that's servicing
6 the phone. That's the location in cellular technology with
7 respect to identifying where the phone is. Not exactly where
8 they are, but enough so the network, the cellular network can
9 deliver to the phone.

10 Q Okay.

11 A So, we need to now show the determining step, so this is
12 my diagram of the determining step, but we need to know -- go
13 back to the actual Sprint document to look at the
14 determining.

15 Q So, Slide 145?

16 A Yes, so this is the same document and I'm highlighting
17 again, the part of the deposition that relevant. So, after
18 we're done, where we got the MS ID in the NCB profile, the MS
19 ID, you can kind of see it here, is used in the NC-41 phone
20 table, to determine the location of the phone or to determine
21 the MSC ID, that's the point code. So, and this is again,
22 PX-172 and looking at the document, looking at the testimony,
23 they're consistent.

24 Q Okay. And then what happens with that MSC ID?

25 A So, now the third step is met, the determining has

Akl - Direct

82

1 happened in the HLR. It has used the internal identifier to
2 determine -- this is the internal identifier -- to determine
3 the MSC ID, this is a three number point code. Then the
4 fourth step is, it needs to send the response back to the
5 messaging server, which is what happens here. So, the SMS
6 REQ ACK is the response message going back to the messaging
7 server with the MSC ID and it contains the transaction ID.
8 If you recall, the fourth limitation, you can send a response
9 message and responses that inquiry from the cellular network
10 to said messaging server, external to the cellular network in
11 which response message the information relating to said
12 terminal is indicated with the aid of said first identifier.
13 And we also have claim construction for that last term.

14 The transaction ID is sent back, the messaging
15 server looks at the transaction ID, if you remember the
16 transaction ID was in the inquiry. It compares them, it can
17 correlate them. It now knows that this response is for the
18 specific phone that I was asking and we are done with this
19 limitation.

20 Q So, I have one or two follow-ups.

21 A Oh, okay, that's fine.

22 Q So, this SMS REQ acknowledgement message, unlike the
23 message, returned messages we've seen before, this one does
24 not contain the first identifier, the phone number, correct?

25 A It doesn't contain the phone number, correct. It

Akl - Direct

83

1 contains the transaction ID, which is used to correlate, but
2 that's consistent with the Court's construction. The Court's
3 construction says, "with the aid of said first identifier,
4 means with the aid of the first identifier. Where the first
5 identifier may, but need not be included in the response
6 message." So, in this case, the phone number isn't included,
7 but the transaction ID is and so, using the transaction ID,
8 the messaging server can correlate that with the transaction
9 ID and the message that it sent and the phone number. When
10 we looked at the trace, we had a trace of the SMS REQ, so it
11 meets the Court's construction.

12 Q The transaction ID that's in this SMS REQ ACI message, is
13 that the same transaction ID that was sent in the SMS request
14 message that went from the messaging server to the HLR?

15 A Yes.

16 Q And because they're the same, that's how the correlation
17 can take place?

18 A Yes.

19 Q Okay, so Dr. Akl, what happens if the phone is not turned
20 on or the phone is not in the range of the cell network
21 towers?

22 A So, when the phone is on and it's turned on, we get the
23 MSC ID, that's the location. If the phone is not registered
24 or it's not turned on or it cannot be located, then what is
25 sent back is a flag, so you have a flag that's a response

Akl - Direct

84

1 back that says, do not send the message. You have to wait,
2 the phone is not ready. So, in both cases, there is in
3 information that's sent back. So, either the location of the
4 phone is sent back or a flag is sent back. But in both
5 cases, it is an infringing step, because it is information
6 relating to the phone.

7 Q Dr. Akl, earlier today, it feels like maybe it was last
8 week, but it was just today, you talked about the notion
9 that, you know, back in 1999, cellphone reception wasn't as
10 good as it is today?

11 A Yes.

12 Q Right and then therefore, you would think that these
13 message -- these can't find the phone type of messages would
14 be sent back in 1999, is that correct?

15 A Yes.

16 Q So, today, is there the same problem where the phone
17 can't be found, not every, you know, we have better cellphone
18 reception?

19 A Yeah, we have better cellphone reception, but this is
20 still an issue. Because you can think of a lot of scenarios
21 where you may not be available. For example, you go into a
22 big building, you may not have reception inside the building.
23 You go in an elevator, you get on a plane, you have to turn
24 your phone off and then you land and then you get all these
25 text messages suddenly, those are all examples where this is

Akl - Direct

85

1 still the case. Where the HLR is queried and it will say, I
2 don't know where the phone is and then suddenly, you know,
3 the -- you land, you're available, the phone communicates
4 with the network. All the signaling is happening and then
5 the HLR sends that, yes, the phone is now available. So, it
6 is just as applicable today, because there are still lots of
7 scenarios where you kind of go off the grid for a little bit.

8 Q Okay, so have you just walked through all of Claim 1 with
9 respect to the HLR and a Sprint subscriber receiving a
10 message from another Sprint subscriber?

11 A Yes.

12 Q Okay and is it your opinion and your conclusion that
13 Sprint infringes with respect to that modality?

14 A Yes.

15 Q Okay. So, are you going to now talk about Claim 7, which
16 I have up on Slide 150?

17 A Yes, so we've looked at Claim 7 before and Claim 7 says,
18 again, that's a dependent claim from Claim 1 and then wherein
19 said inquiry is sent to a specific network element of the
20 cellular network and that said network element determines the
21 information relating to the terminal. So, what's doing the
22 determination is the HLR. We just walked through that. So,
23 for the same reasons that the HLR, it does the mapping and
24 then it does the determination, it meets the language of
25 Claim 7.

Akl - Direct

86

1 Q Okay, so let's talk about when a Sprint subscriber
2 receives an SMS message from a non-Sprint subscriber, that's
3 what you're showing on your Slide 151?

4 A Yes. So, we have a SMS ICG to Sprint, so we have an
5 inter-carrier gateway to the messages coming from a different
6 carrier to a Sprint subscriber. There is still an inquiry
7 going from the SMSC to the HLR and the evident knowledge spin
8 back, so there is still infringement.

9 Q And does the process work exactly the same way that you
10 just described?

11 A Yes.

12 Q Okay, how about MMS, does Sprint infringe with respect to
13 the HLR and MMS?

14 A Yes.

15 Q What are you showing on your Slide 152?

16 A So, when you have -- when a Sprint subscriber receives an
17 MMS and this MMS Sprint to Sprint, the way the process works
18 is the MMSC is going to message the SMSC and you're going to
19 have a request. The SMSC is going to talk to the HLR, it's
20 going to get that information just like we saw and then it's
21 going to send the request. The HLR is going to look up the
22 location of the phone. It's going to tell the SMSC, the
23 phone is ready or it's going to tell the SMSC, I don't have
24 the location of the phone. And then the SMSC is going to
25 send a response back to the MMSC, so there is still the same

Akl - Direct

87

1 infringing steps and communication when an MMS message from
2 Sprint to Sprint is received.

3 Q So, Dr. Akl, we're talking about when a Sprint subscriber
4 receives an MMS message?

5 A Yes.

6 Q But you're referencing infringement with respect to SMS?

7 A Yes.

8 Q So, there's an -- when a Sprint subscriber receives an
9 MMS message, are they also receiving an SMS message?

10 A Yes, the way that happens, when you send a multi-media
11 message, the MMSC, the messaging server for the multi-media
12 is going to need the help of the SMSC. And what the SMSC,
13 this is the text messaging server. The SMSC is going to do
14 the look-up and it's actually going to send the phone
15 notification that an MMS is waiting. And then the phone is
16 going to go and pull the multi-media message from the
17 network. So, you still have infringement, but you -- when
18 you're receiving a multi-message, but the multi-message, it
19 needs the messaging server, the texting messaging server to
20 send a notification for the phone and then the phone is going
21 to go and pull the MMS. So, the infringing steps are still
22 the same, because the SMSC, the texting messaging server, it
23 still needs to query the HLR, know the location of the phone
24 and then get that information and when the phone's ready,
25 it's going to tell the phone you have an MMS, go pull it.

Akl - Direct

88

1 And that all happens and then the MMS is delivered.

2 Q Okay and on your Slide 153, does the same happen when a
3 Sprint subscriber receives an MMS message from a non-Sprint
4 subscriber?

5 A Yes, so the steps are the same. This is a non-Sprint
6 subscriber sending a message to a Sprint subscriber and it's
7 the same process as with regard to the MMSC, the multi-media
8 messaging server is going to talk to the text messaging
9 server, the SMSC is going to query the HLR, it's going to get
10 a response and then it's going to tell the phone, you have an
11 MMS and go get it.

12 Q Okay, so let's talk about the time periods when Sprint's
13 SMSCs were used in Sprint's network. What are you showing on
14 Slide 154?

15 A So, with regard to Slide 154, I'm showing there is a
16 converse SMSC and this looks like it's 1998. So, this is
17 really old. But it's mobile terminated only, so in '98,
18 Sprint subscribers could actually -- they did not have
19 two-way capability of texting. But you could -- they had --
20 Sprint had an add-on service where you can send like your
21 horoscope. So, you had premium content that can only be
22 delivered to the phone. The phone cannot initiate the text.
23 But you can have premium content delivered to the phone.
24 This was done in '98. It's not until 2004 that you have
25 two-way texting. And the Ecision (ph) SMSC started in 2008

Akl - Direct

89

1 through the present.

2 Q Okay, so the converse SMSC was in a start date of 1998,
3 but it was only for mobile terminated SMS?

4 A Yes.

5 Q So, could a Sprint subscriber in 1998 receive a text
6 message from another Sprint subscriber?

7 A No.

8 Q Could a Sprint subscriber in 1998 receive a text message
9 from a non-Sprint subscriber?

10 A No.

11 Q Okay.

12 A It was just that premium content, like horoscope and
13 stuff, that you can sign up for and you would get those on
14 your phone.

15 Q So, they're kind of like messages that come down from the
16 network as opposed to coming from other subscribers?

17 A Yes.

18 MR. FINKELSON: Objection, your Honor.

19 THE COURT: Sustained. It's leading, do you want to
20 ask it again?

21 BY MR. GOETTLE:

22 Q How would a -- where would an SMS message come from if a
23 Sprint subscriber was to receive one back 1998?

24 A So, it's the -- there were premium content servers that
25 would like, for example, generate your horoscope or you sign

1 up for snippets of news. That premium content you sign up
2 for that service and you get those messages on your phone.
3 It was receive only.

4 Q And did there come a time in Sprint's network where it
5 did offer the ability for subscribers to sent and receive SMS
6 messages?

7 A Yes, this started in 2004.

8 Q Turning to your Slide --

9 THE COURT: Mr. Goettle?

10 MR. GOETTLE: I'm sorry.

11 THE COURT: Well, two minutes.

12 MR. GOETTLE: I didn't hear you, your Honor, I'm
13 sorry.

14 THE COURT: I thought you were going to turn to a
15 new issue.

16 MR. GOETTLE: Yes, if this is a breaking point, I
17 really tried to get done and we have a little bit more to go.

18 THE COURT: Well, for the reasons that I explained
19 yesterday, we're going to recess early. We're going to try
20 to avoid this early recess, but not today and not tomorrow.
21 We're going to try next week to rearrange travel plans, so
22 that we can stay until about quarter of 5:00. But for
23 tonight, we're recessing at about 4:20, which is like two
24 minutes from now.

25 We'll do the same thing tomorrow. To give you some

1 idea of your schedules. We'll start tomorrow morning at
2 9:30. The schedule will be the same, mid-morning break,
3 lunch break. Same on Monday, we'll start at 9:30. I'll tell
4 you about recess time on Monday after I hear from our
5 traveler with the problem.

6 I'm going to give you my usual day-end instructions.
7 It's been awhile since I made this to you. You've heard a
8 little bit more about the case and this will increase, you'll
9 learn more and more about the case as we go. And there's be
10 a temptation to talk to others at home about the case. We're
11 not going to do that. You're instructed not to do that, I've
12 explained why. I haven't seen any reporters in the
13 courtroom, but everything we do here is recorded and they can
14 pick up a tape and report on it. So, if there is a report on
15 radio or television, do not listen to anything that is
16 broadcast. Do not view anything broadcast on television and
17 if a reporter happens to write anything in a newspaper, do
18 not read it.

19 The reason? You've got to decide the case based
20 solely on the evidence presented in the courtroom and my
21 instructions on the law and not what any reporter, in any
22 newspaper, radio station or television station, might say
23 about the case.

24 Have a safe trip home. Be sure you leave your juror
25 notebooks and binders in the jury room. I'll see you

1 tomorrow morning at 9:30. Let's try to get here on time
2 tomorrow morning.

3 THE DEPUTY CLERK: All rise.

4 (Jury exits.)

5 THE COURT: Be seated, everyone. You may step down,
6 Doctor.

7 THE WITNESS: Thank you, your Honor.

8 THE COURT: Is there anything else we have to
9 address?

10 MR. FINKELSON: Not for Sprint, your Honor.

11 MR. GOETTLE: Not for Comcast, your Honor.

12 THE COURT: Good, good. We're in recess until
13 tomorrow. Are there hard copies of the slide?

14 MR. GOETTLE: Yes. May I approach, your Honor?

15 THE COURT: Yes. Now, how is this marked?

16 MR. GOETTLE: Oh, you know what, your Honor, after
17 you talked about having the jury take it back, I realized I
18 need to have them marked. What I'll do is I'll put
19 Plaintiff's Demonstrative-2 on it, I think. Even though
20 we're not sending it back, my opening slides were labeled
21 Plaintiff's Demonstrative-1, so we'll do Plaintiff's
22 Demonstrative-2 and then if you flip to the next page, every
23 page is number with PD-2. - the page number.

24 THE COURT: And what does that --

25 MR. GOETTLE: PD, Plaintiff's Demonstrative-2. - the

1 page number, so you'll see that those -- what comes after the
2 dot increases on every page.

3 THE COURT: Yes.

4 MR. HANGLEY: Your Honor, may I confer with Mr.
5 Goettle on one other thing?

6 THE COURT: Yes. Anything else?

7 MR. HANGLEY: Thank you, sir.

8 THE COURT: What happens if the jury asks for this
9 exhibit? Have we -- I think we've addressed that issue.

10 MR. FINKELSON: Well, I think, yeah, I think we
11 talked about it, your Honor.

12 MR. GOETTLE: When you say this exhibit, do you mean
13 the top of the presentation itself?

14 THE COURT: Well, I'm talking PD-2.

15 MR. FINKELSON: So, here's a question I'd like to
16 raise with the Court and we did talk about this earlier and
17 we're happy to follow the Court's guidance. But the concern
18 that Sprint has is that on many of the pages of this
19 demonstrative, particularly once you get to the section that
20 has been labeled Sprint's Cellular and Messaging Networks.
21 They essentially take portions of an actual Sprint document
22 and then add text or other things to it, on each page in a
23 way that makes it nearly impossible, unless the jury was
24 given a script to know what is in the actual document versus
25 what is in the demonstrative and I'm not sure what the best

1 way to deal with that is, but I do have a concern about it.
2 So, for example, if your Honor looks at page PD-2 -- PD60 --
3 PD-2, sorry, Mr. Goettle's numbering is throw us a loop. PD-
4 2.63.

5 THE COURT: All right.

6 MR. FINKELSON: An even better example, your Honor,
7 is PD-2.69, because that has two documents that appear time
8 and time again. So, does your Honor have that one?

9 THE COURT: I'm turning there -- I do.

10 MR. FINKELSON: So, just so you can understand it,
11 if you're seeing this in hard copy, first of all, these are
12 portions to two separate Sprint documents that have been
13 appended one on top of another. The box on the top is a
14 portion of document A and the box on the bottom is a portion
15 of document B. And then the are actual sections of those
16 documents, at least, as to the top one, that are removed from
17 the document. And by removed, I just mean in fact, no
18 nefarious intent. Removed and then words, Sprint's Messaging
19 Network is appended in blue. That's not in the document.
20 That's Dr. Akl's demonstrative. And similarly, if you look
21 at the document on the bottom, Dr. Akl has taken the stuff
22 that's in black and white, that's in the actual document and
23 he's put a green box around what he's calling the core
24 network elements. And then he's put in Sprint's cellular
25 network, that's not in the document. And then he put in this

1 PSTN and internet clouds that are not in the document.

2 So, that's a concern we have in terms of how the
3 jury may be confused if it was handed the physical copies of
4 the demonstratives.

5 THE COURT: Well, maybe we can come up with an
6 explanation that works. I don't want and I'm reminded of
7 prior cases, where a situation like this comes up while
8 they're deliberating and we have to spend a good deal of time
9 trying to figure it out. It's an issue that might come up.
10 We don't have to decide it today. However I decide it, it
11 will be equally applicable to both sides. And as I look at
12 that example, PD-2.63 and 69, it seems, at least, on those
13 exhibits, that Dr. Akl's additional or annotations are in
14 color and everything else is in black and white.

15 MR. FINKELSON: In the top one, your Honor, just so
16 the record's clear, the top one, the coloration, the blue and
17 the red in the lines --

18 THE COURT: Yes.

19 MR. FINKELSON: -- those are in the actual document.
20 But the words, Sprint's Messaging Network, are not and then
21 he adds some other colors. But the actual document is in
22 color and all of those lines or many of those lines are in
23 blue. And then there's other green components that are
24 actually in it that are not there. So, that's the confusion.
25 It's a color document and it's got that language on top of

1 it.

2 THE COURT: Well --

3 MR. FINKELSON: So, we just -- I just wanted to
4 bring it to the Court's attention. As long as we have some
5 way to address so there's not juror confusion.

6 THE COURT: Well, I'm going to rely on you to work
7 with Comcast and try to address it. You've explained the
8 blue and red annotations are in the original document. There
9 are two other colors that I see, at first glance, green and
10 yellow. Are they in the --

11 MR. GOETTLE: The green was added by Dr. Akl and I'm
12 not sure what yellow --

13 THE COURT: I'm looking at 63.

14 MR. FINKELSON: Oh, I was looking for yellow, too.
15 The yellow is his highlighting and that's more -- that, in my
16 mind, your Honor, is more, I mean, that's highlighting, so I
17 don't think the jury is going to be confused by culling out a
18 particular diagram. But the different issue like, for
19 example, on 69 and 64 is another example, where there's just
20 some coloration changes and it's hard to tell where the color
21 in the document starts and Dr. Akl's addition. Again and to
22 be fair, I thought Dr. Akl was, in his testimony, made an
23 effort to point out to the jury --

24 THE COURT: Oh, I think he did.

25 MR. FINKELSON: -- when he was doing that. I'm not

1 suggesting otherwise. That is going to be distant memory,
2 however, to this jury by the time they see this
3 demonstrative.

4 THE COURT: Well, let's look at P -- let's get the
5 P-269. Is everything in blue and red at Sprint?

6 MR. FINKELSON: So, blue and red is in the actual
7 Sprint document, your Honor, which is PX-99. But that actual
8 document also has green in it, that Dr. Akl has removed for
9 purposes of the demonstrative. So, there's actually green
10 lines in that same top box, it's in the actual document, that
11 he's taken out. And then he's recreated the green below in a
12 separate document.

13 MR. GOETTLE: We can add words like modified Sprint
14 document or something. I would leave it to Sprint to propose
15 what would make them comfortable. I don't think you need,
16 you know, I think we can come up with words.

17 THE COURT: Well, we ought to decide and we can
18 decide it now and requests for transcripts. Everyone has
19 ordered daily copy. By the way, have you received daily
20 copy?

21 MR. HANGLEY: Yes, we have.

22 THE COURT: Michael, where is our daily?

23 MR. COSGROVE: We did not.

24 THE COURT: The expression on my face should tell it
25 all. The rule is when anyone gets daily copy and so you will

1 quickly get daily. Thank you. All right, well, if they ask
2 for transcripts, we ought to be thinking about how you want
3 to handle that. Normally, in short case, the answer is no.
4 In a longer case, it's just completely discretionary and in a
5 long, technical case, it seems to me there might be more of a
6 reason for providing transcripts. I'm not going to decide
7 today. Think about it and I'm sure there are lot of other
8 issues that will come up that I haven't anticipated, but
9 those are juror.

10 All right, on that note, we'll be in recess, 9:30
11 tomorrow morning. Have a good evening.

12 THE DEPUTY CLERK: All rise.

13 (Court adjourned 4:30 o'clock p.m.)

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1	INDEX				
2	WITNESSES	D	C	RD	RC
3	Dr. Robert Akl, Continued				
4	By Mr. Goettle	7			
5		— — —			

CERTIFICATION

I hereby certify that the foregoing is a correct transcript from the electronic sound recording of the proceedings in the above-entitled matter.

s:/Geraldine C. Laws, CET
Laws Transcription Service

Date 2/2/17